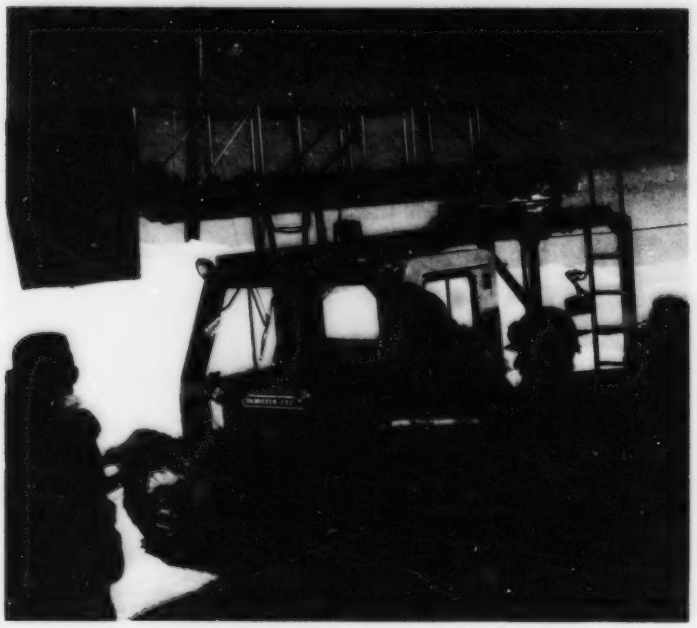
TABLED DOCUMENT NO. 15 - 12 - (1) TABLED ON DEC 1 2 1991

Northwest Territories Power Corporation
Annual Report 1990/91

Planning Power for the Future; the continuing challenge



NORTH-WEST TERRITORIES
POWER
CORPORATION

Produced by:
Stoneman Communications, Edmonton

Photos:
Photo Library, Northwest Territories Power Corporation

Design:
Inkit Ltd., Yellowknife

Recycled Paper

100-07428/

Report of the Board of Directors for 1990/91

To the Honourable Nellie Cournoyea
Minister Responsible for the
Northwest Territories Power Corporation

I am pleased to submit to you the report of the financial position of the Northwest Territories Power Corporation, together with a summary of programs and initiatives undertaken by the Corporation during the 1990/91 fiscal year.

We thank you and your staff for the cooperation and courtesy extended to us during the past fiscal year.

On behalf of the Board,

J.H. Robertson
Chairman
April, 1991

Table of Contents

Corporate Profile 3

A Message from the Chairman of the Board 4

President's Message 5

A Year in Review

- Corporate Affairs 6
- Corporate Development 7
- Engineering 8
- Finance 8
- Internal Audit 9
- Legal Services/Corporate Secretary 9
- Operations 10
- Personnel 10
- Purchasing 11
- Safety and Security 14
- Map of the Corporate Service Area 15
- Board of Directors 16
- Officers and Advisors 16

Financial Statements

- Management's Responsibility for Financial Reporting 18
- Auditor's Report 19
- Balance Sheet 20
- Statement of Income 22
- Statement of Retained Earnings 23
- Statement of Changes in Financial Position 24
- Notes to Financial Statements 25
- Schedule of Write-offs (unaudited) 33

The Honourable Nellie J. Cournoyea, Minister Responsible for the Northwest Territories Power Corporation

Corporate Profile

Stretching across a service area of three million square kilometres, the Northwest Territories Power Corporation is responsible for providing the electricity needs of the people of the Northwest Territories.

The Corporation was created May 5, 1988 by the Government of the Northwest Territories through the Northwest Territories Power Corporation Act.

Under this Act, it is the responsibility of the Corporation to generate, supply and deliver electricity throughout the Northwest Territories. The Corporation is the principal producer of electricity, operates the main transmission networks, and supplies water, sewerage and central heating services in some of the northern communities.

The Corporation is committed to supplying energy on a safe, reliable, economic and efficient basis to its customers. By planning power for the future, one of its strongest commitments is to ensure an adequate energy supply to meet the growing needs of the North.

The Corporation operates 53 generating plants across the Territories. The basis of its operations are diesel electric plants and two hydro electric systems. Wholesale electric power is sold to two distributing utilities, which in turn, retail it to consumers in Hay River and Yellowknife. The Corporation directly serves three large mining customers, 3,200 commercial customers and 10,500 domestic customers.

The Corporation is directed by a Board of Directors; a Chairman and a maximum of eight members are appointed by the Minister responsible for the Corporation. The President, also a Board member, is a full-time employee of the Corporation appointed by the Minister upon the recommendation of the Board.

The corporate head office is in Hay River, Northwest Territories.

The Corporation is committed to supplying energy on a safe, reliable, economic and efficient basis to its customers.

A Message from the Chairman of the Board

At the heart of this industry and the core philosophy of the Corporation is the knowledge that the needs of the customer must be our principal concern.

With the release of this, our third annual report since devolution to the territorial government in May, 1988, it is with a great sense of pride in our accomplishments that we present the corporate initiatives undertaken during the most recent fiscal year.

This Corporation's unique structure strives to meet the increasingly complex and ever changing needs of its service area. With over three million square kilometres of vast, rugged and often harsh landscape in that service area, the employees of the Corporation must endeavour to maintain flexibility and ingenuity in dealing with the needs of our customer base.

With *"Planning Power For the Future; the continuing challenge"* as the theme of this year's report, we reaffirm the corporate commitment to planning and implementing programs which are cost effective, efficient and meet or exceed corporate expectations for sound environmental practices.

At the heart of this industry and the core philosophy of the Corporation is the knowledge that the needs of the customer must be our principal concern. To meet those needs we must provide education and training opportunities to our employees and to the young people of the North who may someday be part of the Corporation.

The establishment of community contacts through liaison with corporate representatives has allowed us an opportunity to more effectively plan major projects with the consultation and commitment of community members in the North. This step will promote a corporate spirit of trust, cooperation, responsibility and initiative that is vital to the culture of a modern organization.

On behalf of the Board of Directors, I commend and thank all of our employees for their dedication and outstanding efforts in providing a vital service to the people and businesses of the Northwest Territories.

The successes of this Corporation must also be attributed to the support and vision of the Honourable Nellie Cournoyea, Minister Responsible for the Corporation, and her colleagues in Cabinet.

Much has been accomplished in the past three years. There is much to look forward to.

James H. Robertson
April, 1991

President's Message

It is with great pleasure that we present the third annual report of the Northwest Territories Power Corporation.

Having joined the Northwest Territories Power Corporation in the latter part of this fiscal year, it was exhilarating to enter a corporate culture as fast paced, forward thinking and motivated as that of this organization.

This year marks a new level of achievement for our Corporation. Our major capital works program has been thoroughly planned and implemented and is well on its way to meeting the objectives of upgrading or replacing many of the generating facilities throughout the service area over the next five years.

Our individual departments have initiated a number of programs to meet our corporate commitment to supply energy on a safe, reliable, economic and efficient basis to the people of the Northwest Territories now and into the future.

A great deal has been accomplished through the efforts and innovative spirit of our managerial, administrative and industrial work force. We will continue to provide the highest level of service possible and to plan for and implement programs appropriate to meet the needs of our valued customers.

The Corporation has placed an increased emphasis on training activities and we have conducted an aggressive program in this area during the past year. Communication skills are increasingly important as we work with our customers toward demand side management and environmentally responsible initiatives.

Our individual area activities in consumer education and public awareness will continue and it is our intention to formalize a corporate communication strategy in the next fiscal year which will provide the framework for enhancing communication initiatives on behalf of the Corporation.

May I take this opportunity to thank all our employees, the Board of Directors, the Honourable Nellie Cournoyea, Minister Responsible for the Corporation and her colleagues in Cabinet, for another successful year for the Northwest Territories Power Corporation.

R.D. Kidd
April, 1991

Corporate Affairs

Rates and Regulatory Affairs

Regulation of the Corporation is currently within the jurisdiction of both the GNWT and the Public Utilities Board (PUB). Recent amendments to both the Northwest Territories Power Corporation Act and the Public Utilities Act will give the PUB the authority to set the rates of the Corporation effective April, 1992. Rates and Regulatory Affairs was established to prepare the Corporation to adhere to those regulatory requirements.

During 1990/91 the Executive Council of the GNWT directed the PUB to conduct an Electrical Rate Structure Review and public hearings were held at Cambridge Bay, Fort Smith, Hay River, Inuvik, Iqaluit, Rankin Inlet and Yellowknife. Presentations and submissions by the Corporation were a major component in this review process.

The PUB presented a report of its findings to the Minister in October, 1990 and the final report will form the framework for strategy to be addressed by Rates and Regulatory Affairs.

The Corporation requested and received approval from the GNWT for an across-the-board rate increase of 4.5% effective October 1, 1990. It is anticipated this will improve the financial performance of the Corporation under the legislative entitlement of a "rate of return earned by a private sector utility".

The Corporation also received approval from the GNWT for the inclusion of a Fuel Adjustment Clause to its rate schedules. The Fuel Adjustment Clause was designed to allow the Corporation to recover any exceptional oil cost increases related to the war in the Persian Gulf. Fortunately, the increases were sufficiently minor that it was not necessary to invoke this clause.

The generation and supply of electricity in Colville Lake is expected to begin in 1991/92 and work has begun on the rates and rate structure to be applied to customers in that area. This will be the Corporation's first attempt at designing rates that are cost-based and in line with the rate design guidelines of the PUB.

The GNWT Executive Council directed the PUB to hold a public hearing to review the Corporation's cost of service methodology. The Corporation has begun preparations on a Submission to the PUB and filing of the submission is planned for early in the 1991/92 fiscal year. The PUB has been directed to issue a report on their findings by September, 1991.

Market Analysis

The Corporate Affairs department forecasts electrical energy consumption and demands for the communities in the Corporation's service area. A Load Forecast is prepared and published three times per year, February, June and November and is used to project sales, generation and peak demand 10 to 20 years.

Forecasting in the Northwest Territories is particularly challenging as the relatively small size of most northern communities means development of even a few buildings in a small community can have a major impact on the electrical system.

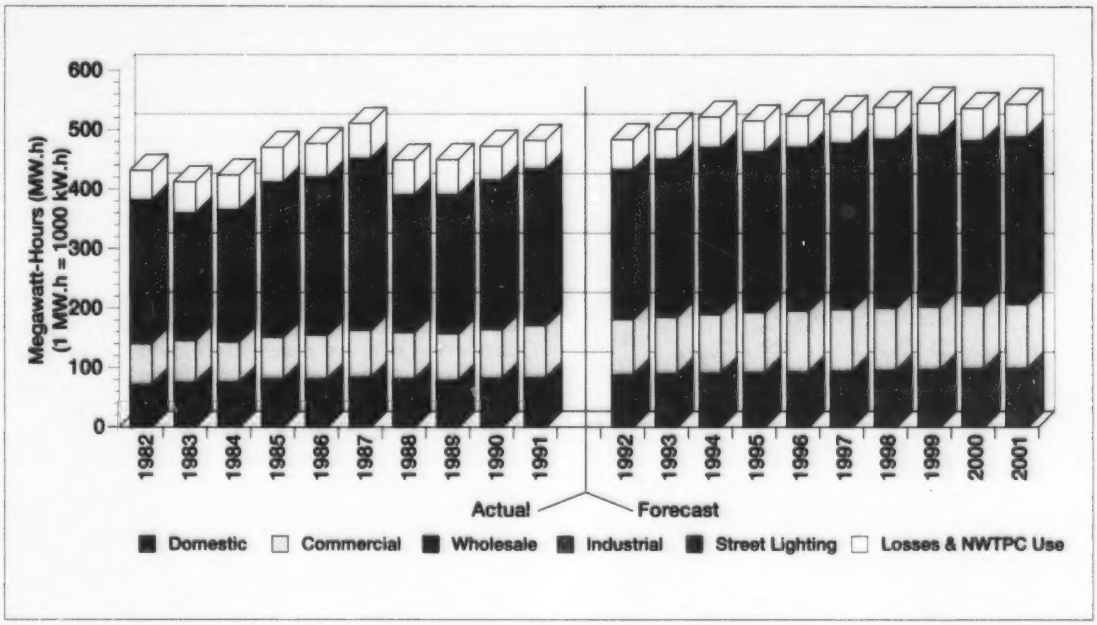
The challenge of forecasting is being met by developing and maintaining contacts in the communities and with government agencies and developers.

As the Corporation comes under traditional rate setting by the Northwest Territories Public Utilities Board (PUB) it will become necessary to know more about the Corporation's customers. The information needed for rate setting is considerably more detailed than was previously required and the challenge exists to collect detailed information for allocating service costs in a cost effective manner.

The market analyst is also involved in marketing electricity to new industrial customers. Each year corporate affairs prepares a presentation for the Northwest Territories Geoscience Forum. The forum is attended by most of the mining companies operating in the Territories and is one of the primary opportunities for the Corporation to meet prospective industrial clients.

As the Corporation comes under traditional rate setting by the Northwest Territories Public Utilities Board (PUB) it will become necessary to know more about the Corporation's customers.

Northwest Territories Total Actual and Forecast Electric Energy Requirements



Corporate Development

The Corporate Development section was a recent addition to the Corporation in November, 1990 and reports directly to the Chief Executive Officer. It focuses on three functions broadly defined as government liaison, business development and public relations communications.

Government Liaison

Corporate Development represents the corporate interests to all levels of government; coordinates all submissions to the Executive Council Committees and to Standing Committees; advises government and ordinary members of issues and activities; and facilitates the exchange of legislative and regulatory information. It also acts as a point of administrative contact between the Corporation and hamlets across the Northwest Territories.

During 1990/91 the section reviewed a number of legislated Acts of the Northwest Territories and participated in discussions related to franchise agreements between the Corporation and communities provided with electrical service.

Business Development

This function involves representing the Corporation's interests to industry and business associations. In this fiscal year the Corporation allowed its formal membership with the Canadian Electrical Association to expire and redirected its attention to the Northwest Public Power Association. The Corporation also became an associate member of the Northwest Territories Chamber of Commerce.

Public Relations/Communication

The public relations role deals with individual and community based concerns and issues arising from the Legislative Assembly including information and action requests from members of the Assembly.

The communications role involves internal and external initiatives and will be further developed through the implementation of a corporate communication strategy.

Corporate Development represents the corporate interests to all levels of government.

The degree of success of a capital program relies heavily on the justification of the need to proceed with new works.

Engineering

Activities in the engineering department in the last year focused on delivering the capital works program adopted by the Corporation. These activities were conducted around five main areas: completion of the Yellowknife transmission line and substations; construction of five new powerhouses; completion of five new berm/tank projects; installation of new diesel engine generators at three locations; and continuation of the annual extension of distribution service among the 53 communities in the service area.

Much of the success in delivery of these projects was in the regular planning and coordination exercises required to maintain project schedules.

The rugged terrain of the Canadian Shield coupled with varied ground conditions and permafrost caused many construction difficulties during the installation of tower foundations and anchors on the transmission line to Yellowknife. New problems caused by changes in the permafrost around footing and anchor points appeared in the year following completion.

A geotechnical program was initiated, including the installation of thermistors to monitor permafrost temperature, and completed late in the winter of 1990. The results of this program will help the Corporation plan any required work to accommodate future permafrost changes in this area.

The corporate relocation from Edmonton to Hay River resulted in an almost complete turnover of staff in the engineering department. As well, it was determined that the department would facilitate an aggressive capital works program throughout the Corporation's generating plants. These two factors led to a reorganization of the department and the implementation of new procedures and guidelines.

The degree of success of a capital program relies heavily on the justification of the need to proceed with new works. The engineering department identified and initiated a number of studies to provide the justification for capital expenditure.

The engineering department of the Corporation is guided by goals, procedures and directives aimed at delivering capital programs under the appropriate controls to ensure timely, economic and reliable projects. The key to that control is the commitment, ability and discipline to plan work in a rapidly changing environment.

Finance

In anticipation of operating as a regulated utility the department of Finance is developing procedures which will allow the Corporation to provide the Public Utilities Board (PUB) with the detailed information required for rate setting purposes. A revenue requirement submission was completed during the year and public hearings also took place before the PUB.

Directives issued by the PUB in February 1991 are currently being implemented. As well, development of a Cost of Service Study is underway and the department is actively adapting the accounting systems and policies to those required of a regulated utility.

During this fiscal year the department developed procedures and trained staff to effectively deal with the implications of the federal Goods and Services Tax.

Micro Computers

Finance also oversees the Corporation's extensive computer systems. During this fiscal year the department implemented a program to increase the use of micro computers throughout all the administrative offices. The use of micro computers in the Corporation has been successfully increased to a total of 78 from a previous figure of 20 during 1988/89.

These computers are used in all areas of the operation including word processing, computer assisted design, budgeting, cost control, data analysis and the production of financial statements and reports. Micro computer use in the Corporation has increased its efficiency and ability to process large

quantities of information.

During this year an extensive data base was also developed which will monitor major capital projects. This new system will allow for the tracking of budgets on multi-year projects and improve the Corporation's ability to monitor and control project costs.

Mainframe Computer

The mainframe computer system was expanded and upgraded with connections to the Fort Smith, Fort Simpson and Cambridge Bay offices through dedicated lines and satellite. These offices now join the Inuvik and Yellowknife operations already on the system. The expanded access to the mainframe will facilitate better customer service at these locations and will increase the offices' ability to efficiently monitor and control their own costs.

The computerized billing system was also adapted to ensure compliance with the procedures required under the Goods and Services Tax. Other major systems development included a fuel adjustment clause, the addition of interest on overdue accounts and development of a Disaster Recovery Plan to protect the Corporation from the loss of its computer information in the event of a system loss.

Internal Audit

Internal audit activities are conducted by the Corporation and during this fiscal year field operations were audited at the following locations: Aklavik, Fort Good Hope, Fort McPherson, Fort Simpson, Iqaluit, Norman Wells, Rankin Inlet and at the Meter Shop of the Yellowknife Operation.

The scope of items covered through field audits include: accounts receivable and sales; capital assets; cash and securities; collections; customer deposits; facilities; fuel management; inventory and storekeeping operations; imprest bank account; meter records; payroll/time reporting; petty cash and safeguards over funds; meter records; safety; and Workplace Hazardous Materials Information System (WHMIS).

As well, several areas of the corporate head office were audited including: housing loans, overtime, payroll adjustments, prepaid deposits, rate increases, and small tools expenditures. In addition to the above field and corporate office audits, several other unscheduled audits were carried out.

An internal audit must meet several objectives including:

Ensuring the Corporation's policies and procedures are complied with and that the records and other supporting evidence are kept in accordance with generally accepted accounting practices;

Ensuring transactions have been within the statutory power of the Corporation;

Ensuring the Corporation is obtaining value for monies spent and cost effectiveness of function operation;

Ensuring the Corporation's assets are properly safeguarded and recorded.

The audit findings and recommendations are forwarded to Management who implement procedures to correct any weaknesses identified by this internal monitoring system.

Micro computer use in the Corporation has increased its efficiency and ability to process large quantities of information.

Legal Services/Corporate Secretary

The legal issues handled by this department are diverse and have included research and advice in employment matters, contract administration, regulatory affairs, legislation and environmental issues relating to land use.

Issues addressed recently have facilitated the restructuring and reorganization of the corporate records and the design and implementation of new file management and administrative procedures. In addition to the management of routine legal matters, three key projects were entrusted to Legal Services.

The first project dealt with the legal and administrative issues associated with the devolution of the assets of the Northern Canada Power Commission to the Northwest Territories Power Corporation. Secondly, Legal Services was to research and define the complex regulatory environment in the Northwest Territories as it affects development in the area of electrical generation and transmission. The case under consideration was the proposed

Taltson-Snare Transmission Intertie Project.

For the third project, Legal Services was charged with developing, negotiating and implementing the first exclusive electric utility franchise agreements between the Corporation and each of the communities in the Territories to which the Corporation provides service.

Each of these projects were unique to the Northwest Territories and required a thorough knowledge of its legal and political framework together with a close working relationship with native organizations and officials of municipal, territorial and federal governments.

Activities continued in the Corporation's three year PCB Decontamination Program as it entered its second year in May, 1990.

At the height of the department's legal activities the staff has consisted of as many as five people working in-house and up to ten outside consultants. Its staffing structure has been designed to allow for permanent, term or contract employment to meet the fluctuating demands of the Corporation's legal activities.

The department is also required to act as Corporate Secretary to facilitate appropriate record keeping of corporate decisions and coordinate meetings of the Corporation's management and Board of Directors.

As a result of the successful reorganization of the department, fluctuating workload has stabilized measurably over the past year with most legal matters handled from within the Corporation. In addition, much of the routine work initially handled by Legal Services is now conducted by administrative staff in other departments of the Corporation.

Operations

In April, 1990 this department commissioned a new power plant at Coral Harbour and received approval to proceed with the design of a new power plant at Colville Lake.

Activities continued in the Corporation's three year PCB Decontamination Program as it entered its second year in May, 1990. During the following five months several power plants in the Mackenzie Valley, northern Arctic, Baffin Island and Keewatin Region were inspected and any PCB contaminated oil was replaced. All contaminated oil was transferred to a special storage compound at Pine Point for safekeeping and future disposal.

A new substation was constructed at Snare Falls as part of the new 115kV Transmission System between Snare and Yellowknife. The new transmission system was then brought into operation and the original 115kV system was transferred to standby service.

During this fiscal year the annual resupply of Bent Horn crude oil to the Resolute Bay power plant ended as the power plant has reverted to the use of more readily available diesel fuel oil. Improvements to several of the Corporation's fuel oil storage systems were carried out in order to reduce the possibility of fuel oil spills from the systems.

The main building for a new power plant at Whale Cove was erected and a number of systems were installed in the building and await completion during the next fiscal year. Site work also continued on the preparation of new power plants at Pond Inlet, Lake Harbour and Tuktoyaktuk.

In preparation for the winter season all hydro and diesel power generating units across the Corporation were made available in the fall of 1990. In Yellowknife the winter's power generation program experienced no power outages or major supply problems. The highest peak power demand for the winter period was 39.5 M W which was 1 M W less than for the same period last year - a direct benefit of the new 115kV transmission line.

A thorough review was completed of the capacities of diesel power generating units required in all the Corporation's power plants over the next five years. This review will facilitate long term planning and development with respect to the operations of the Corporation.

Personnel

This fiscal year the Personnel department was successful in staffing all remaining positions in the corporate head office. Approximately 40% of the Corporation's staff is now comprised of those qualifying under affirmative action. This figure includes aboriginal, female and other employees who have lived more than half their lives in the Northwest Territories.

The department negotiated another one

year collective agreement during 1990/91 which by fiscal year end was awaiting ratification by union members. The Corporation's management met with the Union of Northern Workers (UNW) on the subject of inclusions and exclusions from the bargaining unit. An arbitrator ruled in January of 1991 on positions which could not be agreed to. After the status of most positions was agreed to and an arbitrator had ruled on the remainder, 51 positions were excluded from the union and 228 were included in the bargaining unit.

The department was invited to address a range of topics at the Area Superintendent's Conference including: employee discipline; grievance handling; and the collective agreement. During the coming year the department is planning travel to the Area offices to conduct training seminars on these topics as well as hiring procedures.

The annual Long Service Award and Retirement Dinner coordinated by the department was a great success. The ceremony honoured employees who had retired during the year and those who had completed 15, 20, 25 and 30 years of service with the Corporation.

Purchasing

During the 1990/91 fiscal year Purchasing completed its first full year of northern operations and continued the corporate emphasis on both the use of northern goods and services and the use of environmentally friendly materials wherever possible.

The Corporation currently uses numerous products made from recycled materials including photocopy paper, envelopes, engine wiping materials, shipping materials, corporate forms, and cleaning materials. The Corporation is actively reviewing and testing various chemical products for possible replacement with environmentally friendly products.

The department introduced plans to standardize materials used throughout the Corporation. Standards will be developed for a number of material categories which should increase purchasing efficiency and reduce overall costs. All forms used corporate wide have now been standardized and a contract was negotiated and issued for the re-design, development and supply of those forms.

Warehouses

The Corporation maintains warehouse facilities in Hay River, Inuvik, Iqaluit, Rankin Inlet and Yellowknife as well as a Marshalling Centre in Edmonton. Safety and Training is a priority at these facilities and all warehouse employees must be fully trained in WHMIS and the Transportation of Dangerous Goods Regulations.

The Hay River warehouse facility completed its first year of operations providing daily warehouse and marshalling services and operations will be expanded for the next re-supply period. In Rankin Inlet a warehouse employee was added to the operation to support the growing requirements of that area.

Sealift

The annual Eastern Arctic Sealift Conference was held in Iqaluit in December, 1990. This conference provides the opportunity for all shippers, marshalling agents and representatives from various government agencies to exchange ideas and methods for enhancing resupply operations.

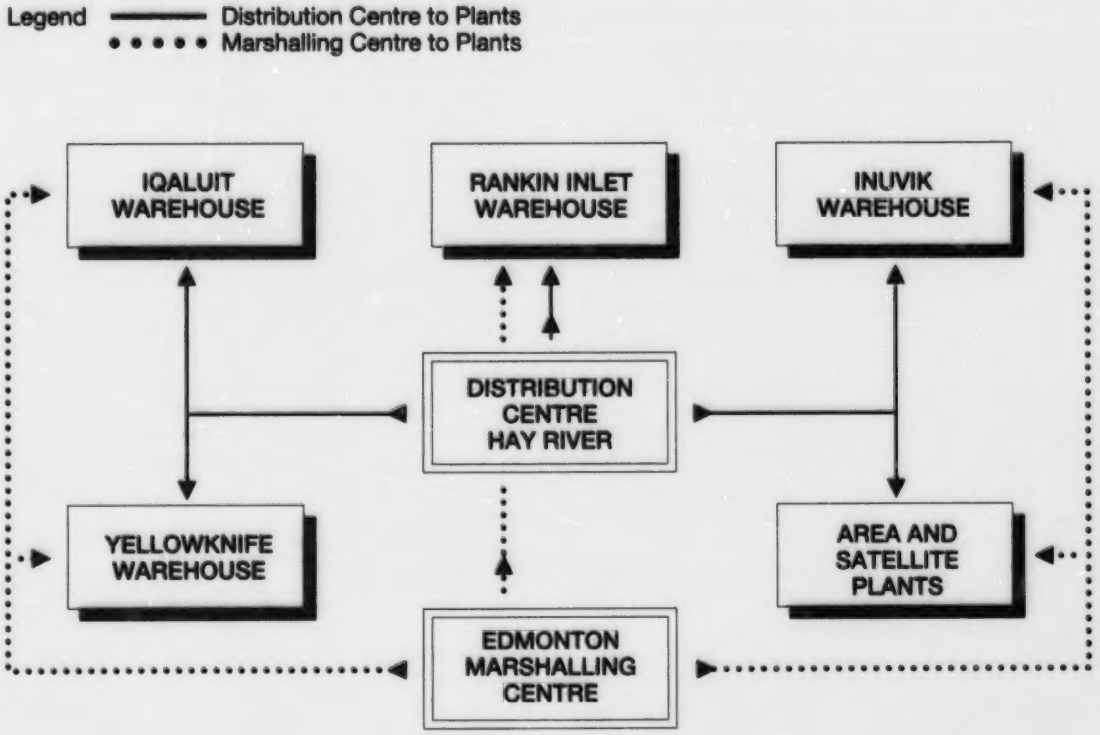
For many of the participants it was their first trip North and offered an invaluable first hand experience to view the off-loading facilities for the resupply of a northern community. All sites were resupplied with a minimum of problems, with the exception of Cape Dorset which was delayed due to ice conditions. Future plans for resupply include the increased use of containers for freight.

During Sealift, the purchasing department oversees the ordering and transfer of materials through ports at Montreal, Churchill and Hay River. Tonnage for this fiscal year was: Montreal - 540 tonnes; Churchill - 440 tonnes; and Hay River - 345 tonnes. Materials are also supplied on a regular basis by road to plants accessible on a road system.

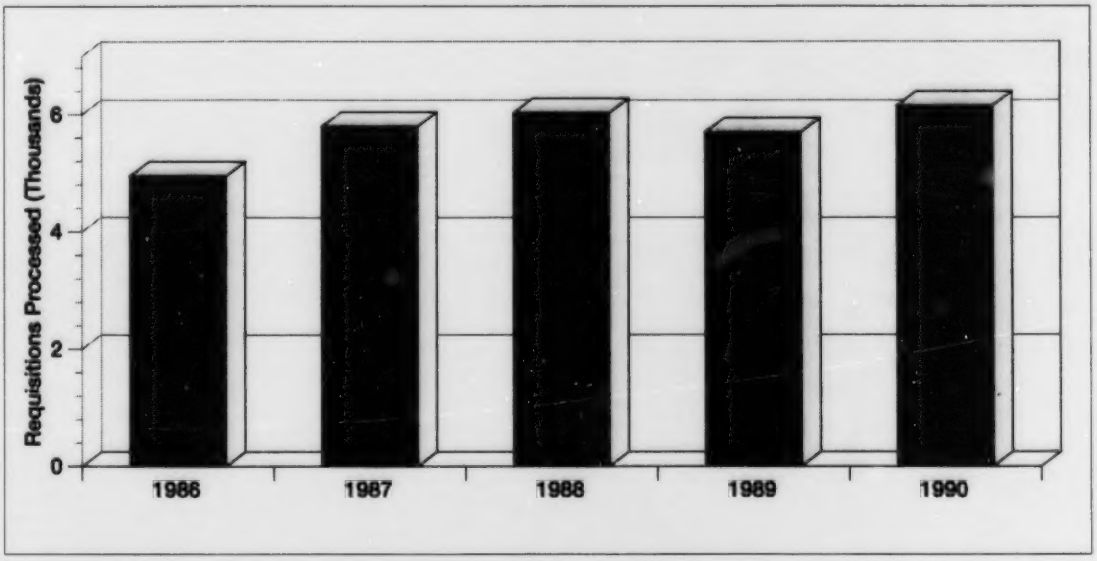
Purchasing monitors the Corporation's requirements for materials and services to meet the increasing demands as plants are modernized and expanded. During 1990/91 Purchasing issued 77 tender calls and actioned 5800 requisitions. Total purchases were $48 million which included $31.2 million for fuel oil.

The Corporation is actively reviewing and testing various chemical products for possible replacement with environmentally friendly products.

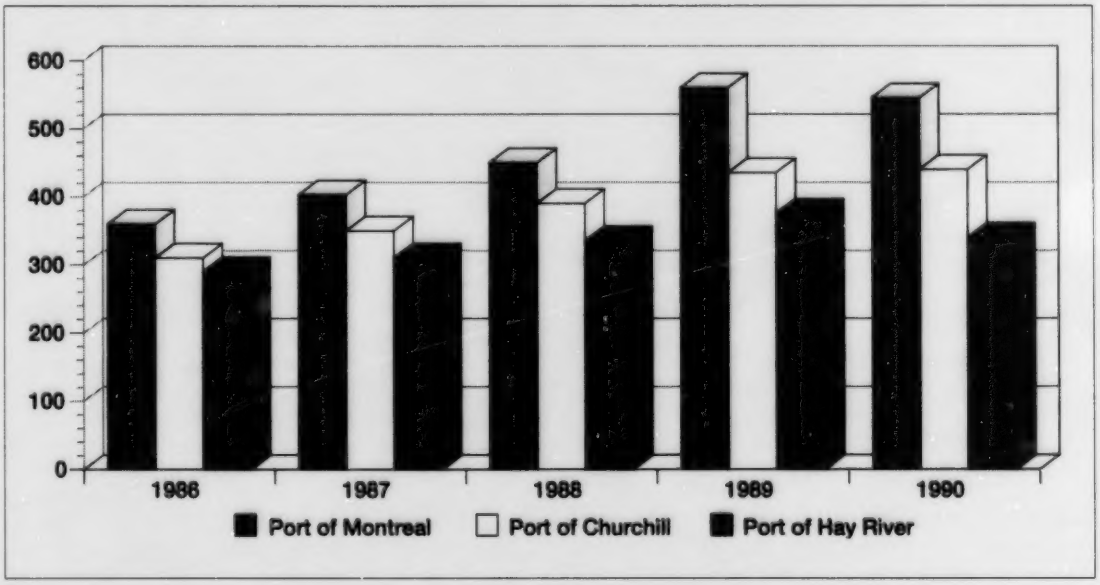
Warehouse Facility Flow Chart

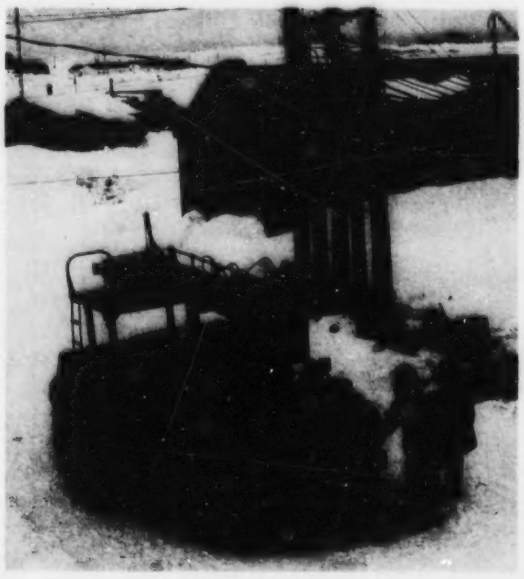


Requisitions Processed



Tonnage for Resupply





Safety and Security

An emphasis on training directed the activities of this department throughout the fiscal year.

An emphasis on training directed the activities of this department throughout the fiscal year and a steering committee was formed to develop a new *"Safety Orientation Program"* for the Corporation.

A pilot for the program was conducted at Inuvik to test the course materials and proposed training manuals. Five persons were trained to instruct other Corporation employees in safety orientation and five employees from the Inuvik area were enlisted to receive the proposed training program. Evaluation of the program is underway.

The previous corporate Safety Manual also underwent critical evaluation in 1990 and is expected to be replaced by the Electrical Utilities Safety Association of Ontario (EUSA) Rule Book and distributed throughout the Corporation by July, 1991.

The EUSA Rule Book is used extensively in several Canadian provinces and is considered appropriate for use in the Northwest Territories. The book will include the EUSA Utility Protection Code and additional directives on steam plants, generating stations, helicopters, fixed wing travel, winter road travel, and snowmobile safety.

The Corporation completed arrangements with the Safety Division of the Government of the Northwest Territories (GNWT) to provide Workplace Hazardous Materials Information System (WHMIS) training to employees across the service area. Employees in the Inuvik and Yellowknife area have received the training and sessions are planned for the Rankin and Iqáluit areas.

Fire inspectors from the Fire Marshall's office of the GNWT agreed to do "hands on" fire extinguisher training for all area plants. The Corporation has standardized its fire extinguishers to the ANSUL type and Levitt Safety volunteered their services to provide annual training courses at the Corporation's larger plants.

Standard First Aid and Cardio-Pulmonary Resucitation (CPR) training courses were completed at the plants in Fort Smith, Inuvik, Iqaluit and Yellowknife (Jackfish).

The Director, Safety and Security and two representatives from Purchasing travelled the Keewatin Region to inspect plant facilities. The safety tour included all plants in the Keewatin as well as those at Igloolik and Hall Beach. A significant improvement has been experienced in general plant housekeeping, and in the storage and handling of transformers, waste, lube oils and line material.

The positive results experienced following the Keewatin safety tour have spearheaded an effort across the Corporation to continue to improve safety standards in the workplace.

UTILITY SERVICE AREA
Thermal Plant (Gas Turbine)
Thermal Plant (Diesel)
Hydro Plant
Electricity, Central Heating, Water and Sewerage
Electricity and Central Heating
Transmission Lines
Corporate Head Office - Northwest Territories Power Corporation
Grise Fiord
Resolute
Sachs Harbour
Tuktoyaktuk
Aklavik
Inuvik
Fort McPherson
Arctic Red River
Holman
Paulatuk
Arctic Bay
Pond Inlet
Clyde River
Fort Good Hope
Coppermine
Cambridge Bay
Spence Bay
Igloolik
Broughton Island
Norman Wells
Fort Franklin
Gjoa Haven
Hall Beach
Fort Norman
Pelly Bay
Wrigley
Pine Lakes
Lac La Martre
Nahanni Butte
Fort Simpson
Jean Marie River
Fort Liard
Yellowknife
Snowdrift
Baker Lake
Cape Dorset
Cold Harbour
Chesterfield Inlet
Hay River
Fort Resolution
Rankin Inlet
Pine Point
Whale Cove
Fort Smith
Arviat

Board of Directors

J.H. Robertson, Chairman
J. Britton, Vice-Chairman
G.R. Green, Member
J. Groenewegen, Member
R. Hardy, Member
K. Harper, Member
R.D. Kidd, Member
J.N. Olsen, Member
J. Parker, Member

Advisors

B. Adema, Financial Advisor
E.W. Humphrys, Technical Advisor

Officers

J.H. Robertson, Chairman & CEO
R.D. Kidd, President & COO
G.R. Green, Sr. Vice-President
D. Ramsden, Vice-President, Engineering & Operations
W.E. Gagnon, Director Legal Services & Corporate Secretary
S. Spicoluk, Director Corporate Affairs
R. Blowers, Director Purchasing
L. Courneya, Director Finance
S. McDonald, Director Personnel
J.A. Nelson, Director Internal Audit
L. Seguin, Director Engineering
J. Davies, Director Operations
B. Campbell, Director Safety & Security
K. Lewis, Director Corporate Development

NORTHWEST TERRITORIES POWER CORPORATION

Annual Report
for the year ended March 31, 1991

NORTH-WEST TERRITORIES
POWER
CORPORATION

92-7

Management's Responsibility for Financial Reporting

The Honourable Nellie Cournoyea
Minister Responsible for the
Northwest Territories Power Corporation

The Corporation maintains internal financial and management systems and practices which are designed to provide reasonable assurance that reliable financial and non-financial information is available on a timely basis, that assets are acquired economically, are used to further the Corporation's aims, are protected from loss or unauthorized use and that the Corporation acts in accordance with the laws of the Northwest Territories and Canada. The Corporation's management recognizes its responsibility for conducting the Corporation's affairs in accordance with the requirements of applicable laws and sound business principles, and for maintaining standards of conduct that are appropriate to a Territorial Crown corporation. An internal auditor reviews the operation of financial and management systems to promote compliance and to identify changing requirements or needed improvements.

The accompanying financial statements were prepared by management in conformity with generally accepted accounting principles appropriate in the circumstances.

The Auditor General of Canada annually provides an independent, objective audit for the purpose of expressing his opinion on the financial statements. He also considers whether the transactions that come to his notice in the course of this audit are, in all significant respects, in accordance with the specified legislation.

The Board of Directors appoints certain of its members to serve on the Audit Committee. This Committee oversees management's responsibilities for financial reporting and reviews and approves the financial statements. The internal and external auditors have full and free access to the Audit Committee.

R.D. Kidd
President

Gordon R. Green
Senior Vice President

Auditor's Report

To the Minister Responsible for the
Northwest Territories Power Corporation

I have audited the balance sheet of the Northwest Territories Power Corporation as at March 31, 1991 and the statements of income, retained earnings, and changes in financial position for the year then ended. These financial statements are the responsibility of the Corporation's management. My responsibility is to express an opinion on these financial statements based on my audit.

I conducted my audit in accordance with generally accepted auditing standards. Those standards require that I plan and perform an audit to obtain reasonable assurance whether the financial statements are free of material misstatement. An audit includes examining, on a test basis, evidence supporting the amounts and disclosures in the financial statements. An audit also includes assessing the accounting principles used and significant estimates made by management, as well as evaluating the overall financial statement presentation.

In my opinion, these financial statements present fairly, in all material respects, the financial position of the Corporation as at March 31, 1991 and the results of its operations and the changes in its financial position for the year then ended in accordance with generally accepted accounting principles. As required by the Financial Administration Act, I report that, in my opinion, these principles have been applied, after giving retroactive effect to the change in accounting for gain or loss on disposal of property and equipment as explained in Note 3 to the financial statements, and except for the change in the method of calculating interest on funds used during construction as explained in Note 4, on a basis consistent with that of the preceding year.

Further, in my opinion, proper books of account have been kept and the financial statements are in agreement therewith and the transactions of the Corporation that have come to my notice during my examination of the financial statements have, in all significant respects, been in accordance with the Financial Administration Act, the Northwest Territories Power Corporation Act and regulations and the by-laws of the Corporation.

Raymond Dubois FCA
Deputy Auditor General
for the Auditor General of Canada
Ottawa, Canada
May 24, 1991

Financial Statements

NORTHWEST TERRITORIES POWER CORPORATION

Balance Sheet
as at March 31, 1991

ASSETS

	1991	1990 (restated)
	(thousands of dollars)	
Current		
Cash and short-term deposits	$ -	$ 5,525
Accounts receivable (Note 5)	14,141	13,544
Prepaid expenses	1,111	826
Inventories		
Fuel and lubricants	10,015	10,342
Materials and supplies	3,910	3,453
	29,177	33,690
Property and equipment		
In service (Note 6)	128,395	104,731
Construction work in progress	6,060	21,087
	134,455	125,818
Other		
Housing loans receivable (Note 7)	1,029	723
Deferred charges (Note 8)	558	479
	1,587	1,202
	$165,219	**$160,710**

Approved by the Board:

J.H. Robertson
Chairman

J. Britton
Director

NORTHWEST TERRITORIES POWER CORPORATION

Balance Sheet
as at March 31, 1991

LIABILITIES

	1991	1990 (restated)
	(thousands of dollars)	
Current		
Bank indebtedness	$ 2,122	$ -
Accounts payable (Note 9)	10,831	14,003
Bank loan payable	11,000	-
Current portion of long-term debt	5,350	5,350
Due to the Town of Inuvik - in trust (Note 10)	3,173	2,011
	32,476	21,364
Long-term		
Long-term debt (Note 11)	57,450	62,800
Employee termination benefits (Note 12)	839	869
	58,289	63,669
Deferred credits		
Contributions in aid of construction	2,964	3,152
Contributed assets	3,133	3,579
	6,097	6,731

SHAREHOLDER'S EQUITY

Capital stock -		
Authorized: Unlimited number of voting, common shares without par value		
Issued and fully paid:		
431,288 common shares	43,129	43,129
Retained earnings (Note 3)	25,228	25,817
	68,357	68,946
	$165,219	**$160,710**

NORTHWEST TERRITORIES POWER CORPORATION

Statement of Income
for the year ended March 31, 1991

	1991	1990 (restated)
	(thousands of dollars)	
Revenues		
Sale of power	$ 81,674	$ 74,080
Sale of heat	6,108	6,239
Other	2,304	1,872
	90,086	82,191
Expenses (Note 13)		
Fuel and lubricants	32,161	30,061
Salaries and wages	20,535	18,491
Supplies and services	16,660	18,518
Amortization	9,256	8,779
Travel and accommodation	3,148	2,598
	81,760	78,447
Income from operations	8,326	3,744
Allowance for funds used during construction (Note 4)	1,816	-
Interest during construction	-	1,612
Interest income	395	1,897
	2,211	3,509
Income before the undernoted	10,537	7,253
Interest expense (Note 14)	8,342	7,656
Relocation expenses	-	994
	8,342	8,650
Net income (loss)	**$ 2,195**	**$ (1,397)**

NORTHWEST TERRITORIES POWER CORPORATION

Statement of Retained Earnings
for the year ended March 31, 1991

	1991	1990
	(thousands of dollars)	
Retained earnings, at beginning of the year		
As previously stated	$ 25,305	$ 26,676
Adjustment for change in accounting for disposal of property and equipment (Note 3)	512	538
As restated	25,817	27,214
Net income (loss)	2,195	(1,397)
	28,012	25,817
Dividend	2,784	-
Retained earnings, at end of the year	**$ 25,228**	**$ 25,817**

NORTHWEST TERRITORIES POWER CORPORATION
Statement of Changes in Financial Position
for the year ended March 31, 1991

	1991	1990 (restated)
	(thousands of dollars)	
Cash and short-term deposits provided by (used for):		
Operating activities		
Net income (loss)	$ 2,195	$ (1,397)
Items not requiring an outlay of funds		
Amortization	9,256	8,779
	11,451	7,382
Non-cash current assets	(1,012)	(867)
Accounts payable	(3,172)	(387)
Due to the Town of Inuvik - in trust	1,162	1,615
Employee termination benefits	(30)	(71)
Funds provided by operating activities	8,399	7,672
Investing activities		
Acquisition of property and equipment	(18,611)	(22,900)
Proceeds on disposal of property and equipment	29	49
Housing loans receivable	(306)	(683)
Deferred charges	(188)	(43)
Funds used for investing activities	(19,076)	(23,577)
Financing activities		
Repayment of long-term debt	(5,350)	(5,350)
Dividend paid	(2,620)	(2,600)
Proceeds from bank loan	11,000	-
Financing costs incurred	-	(6)
Funds provided by (used for) financing activities	3,030	(7,956)
(Decrease) in cash and short-term deposits	(7,647)	(23,861)
Cash and short-term deposits at beginning of the year	5,525	29,386
(Bank indebtedness) cash and short-term deposits at end of the year	**$ (2,122)**	**$ 5,525**

NORTHWEST TERRITORIES POWER CORPORATION

Notes to Financial Statements
March 31, 1991

1. Authority and operations

The Corporation operates under the authority of the Northwest Territories Power Corporation Act and the Financial Administration Act and is a Crown corporation of the Government of the Northwest Territories.

The Corporation operates diesel and hydro-electric production facilities to provide utility services on a self sustaining basis in the Northwest Territories. The Corporation's revenue requirement is subject to approval by the Public Utilities Board and its rates are set by the Government of the Northwest Territories.

The Corporation is exempt from income tax.

2. Accounting policies

A summary of the significant accounting policies follows:

Inventories

Fuel and lubricants are valued at the lower of average cost and net realizable value. Materials and supplies are valued at the lower of cost and replacement cost.

Property and equipment

Property and equipment, excluding that donated to the Corporation by Canada and others, are carried at cost less accumulated amortization. Costs of additions, betterments and major renewals are capitalized. In addition to direct costs of goods and services, capital project costs include an allowance for funds used during construction at a rate approved by the Public Utilities Board and a share of engineering and general administration expense which is directly attributable to the project.

Property and equipment donated to the Corporation by Canada and others are recorded at their estimated fair value less accumulated amortization.

Amortization

On the retirement or sale of depreciable assets, the cost of the assets retired less disposal proceeds is charged or credited to accumulated amortization with no gain or loss being reflected in operations. Gains and losses resulting from exceptional circumstances are written off to operations in the year that the they are recognized.

2. Accounting policies (continued)

Property and equipment in service are amortized on a straight-line basis over their estimated useful lives as follows:

Electric power plants:	
Hydroelectric plants and equipment	27 - 65 years
Diesel engines and associated equipment	10 - 15 years
Fuel storage equipment	20 years
Buildings	20 years
Transmission and distribution systems	20 - 30 years
Warehouses, motor vehicles and general facilities:	
Warehouses	25 years
Buildings	30 years
Office and general equipment	15 years
Computer equipment	5 years
Motor vehicles	4 years
Staff accommodation	10 - 25 years
Other utilities:	
Heating systems	20 years
Sewerage and water	20 years

Deferred charges

Financing costs relating to the issue of long-term debt are amortized on a straight-line basis over the period to maturity of the related debt. Regulatory costs represent the direct costs associated with appearances before the Public Utilities Board. The costs of revenue requirement hearings are amortized over the period between hearings on a straight-line basis. The costs of rate structure hearings are amortized over ten years on a straight-line basis. Other costs are amortized over three years on a straight-line basis.

Deferred credits

Deferred credits represent donations of assets and contributions to aid in the construction and acquisition of property and equipment and are amortized over the estimated useful lives of the respective property and equipment.

Pension plan

Contributions are made by the Corporation and its employees to the Public Service Superannuation Plan administered by the Government of Canada. These contributions represent the total liability of the Corporation and are recognized in the accounts on a current basis.

3. Change in accounting policy

The gain or loss on the disposal of property and equipment was previously reflected in the results of operations in the year of disposal. On the retirement or sale of depreciable assets, the cost of the assets retired less disposal proceeds is now charged or credited to accumulated amortization with no gain or loss being reflected in operations.

As a result of this change in accounting policy, retained earnings has been adjusted by the net amount by which amortization has been decreased; $26,000 of the adjustment is applicable to 1990 and has been charged to income for that year. The remainder is applicable to years prior to April 1, 1989 and the balance of retained earnings has been adjusted accordingly. The effect of this change has been to increase the net book value of capital assets by $512,000 (1990 - $538,000) and decrease net income by $87,000 (1990- $26,000).

4. Allowance for funds used during construction

The Public Utilities Board, in its Decision 1-91, directed the Corporation to adopt the principle of allowance for funds used during construction in calculating carrying charges relating to construction activities. This principle replaces the principle of capitalizing interest at prevailing rates on loan funds used to finance construction during the construction period.

This directive has been applied prospectively. The effect of this change has been to increase the value of property and equipment by $689,000. The impact on income has been to increase income in the current year by $689,000.

5. Accounts receivable

	1991	1990
	(thousands of dollars)	
Utilities, net of allowance for doubtful accounts of $132,000 (1990 - $60,000)	$ 13,143	$ 12,143
Recoverable services, net of allowance for doubtful accounts of $48,000 (1990 - nil)	977	1,151
Insurance claim	-	129
Accrued interest	-	58
Other	21	63
	$ 14,141	**$ 13,544**

Included in utility accounts receivable are $3,473,000 (1990 - $3,435,000) in unbilled amounts.

6. Property and equipment in service

	1991 (thousands of dollars)			1990
	Cost	Accumulated Amortization	Net Book Value	Net Book Value
Electrical power plants	$149,042	$69,976	$79,066	$74,089
Transmission and distribution systems	49,979	13,453	36,526	16,691
Warehouses, motor vehicles and general facilities	12,792	5,955	6,837	7,071
Staff accommodation	7,754	2,908	4,846	5,509
Other utilities	3,029	1,909	1,120	1,371
	$222,596	$ 94,201	$128,395	$104,731

7. Housing loans receivable

Employee housing loans are non-interest bearing and require no principal repayment for five years. The loans are secured by a second mortgage on the properties as title is transferred to the employees.

8. Deferred charges

	1991	1990
	(thousands of dollars)	
Financing costs	$ 505	$ 505
Regulatory costs	216	43
Other	15	-
	736	548
Less accumulated amortization	178	69
	$ 558	$ 479

9. Accounts payable

	1991	1990
	(thousands of dollars)	
Trade payables	$ 6,269	$ 7,475
Accrued interest	1,401	1,562
Fuel tax	999	2,944
Employee leave and termination benefits	811	671
Contractors' holdbacks	573	482
Deposits	441	508
Dividend payable	164	-
G.S.T.	96	-
Payroll	77	139
Deferred revenue	-	222
	$ 10,831	$ 14,003

10. Due to the Town of Inuvik - in trust

This amount represents funds held in trust for the Town of Inuvik for capital repairs to the utilidor system.

Expenditures are made from this trust, subject to the agreement of the Inuvik Utilidor Planning Committee made up of representatives of the Town of Inuvik, the Department of Municipal and Community Affairs of the Government of the Northwest Territories, and the Northwest Territories Power Corporation.

11. Long-term debt

	1991	1990
	(thousands of dollars)	
Promissory note to the Government of the Northwest Territories, repayable in ten equal annual instalments of $5,350,000, maturing June 23, 1998 bearing interest at 11% semi-annually	$ 42,800	$ 48,150
Sinking fund debentures, unconditionally guaranteed by the Government of the Northwest Territories, due March 9, 2009, bearing interest at 11% semi-annually	20,000	20,000
	62,800	68,150
Less current portion	5,350	5,350
	$ 57,450	$ 62,800

11. Long-term debt (continued)

A sinking fund will be established for the debentures, on March 9, 1995, into which amounts will be deposited annually, which together with interest earned, will be sufficient to retire the debentures outstanding at maturity.

Principal repayments for the sinking fund debentures and the promissory note are as follows:

1992	$ 5,350,000
1993	5,350,000
1994	5,350,000
1995	6,050,000
1996	6,050,000
1997-2009	34,650,000
	$62,800,000

12. Employee leave and termination benefits

Under their conditions of employment, employees qualify for annual leave of varying lengths depending on length of service. Employees also earn retirement and severance remuneration based on the number of years of service. Annual leave is payable within one fiscal year. The payment of the other amounts is dependent on employees leaving the Corporation.

13. Expenses

An amount of $10,458,000 (1990 - $9,026,000) in engineering and general administration expenses has been incurred. Of this amount $1,223,000 (1990 - $503,000) has been capitalized.

14. Interest expense

	1991	1990
	(thousands of dollars)	
Interest on long-term debt		
Government of the Northwest Territories	$ 4,844	$ 5,432
Sinking fund debentures	2,200	2,200
Other interest	1,298	24
	$ 8,342	$ 7,656

15. Commitments

The estimated cost to complete capital projects as at March 31, 1991, was $24,387,000 (1990 - $19,191,000).

16. Related party transactions

The Corporation is a Territorial Crown corporation and consequently is related to the Government of the Northwest Territories, and its Crown corporations, Arctic College, Workers' Compensation Board (Northwest Territories) and the Northwest Territories Housing Corporation.

The Corporation provides utility services to, and purchases fuel and other services from these related parties. These services and purchases are provided and made at the same rates and terms as those charged to similar unrelated customers.

Transactions with related parties and balances at year end, not disclosed elsewhere in the financial statements, are as follows:

	1991	1990
	(thousands of dollars)	
Sale of power, heat and water	$ 20,190	$ 18,696
Purchase of fuel	10,360	8,793
Fuel tax	1,831	1,638
Workers' compensation payments	162	190
Other	343	162
Balances at year end		
Accounts receivable	1,667	1,720
Accounts payable	1,946	2,393

17. Comparative figures

Certain comparative figures have been reclassified to conform with the financial statement presentation adopted for the current year or restated for the change in accounting policy.

18. Subsequent event

The Corporation is negotiating the issuance of a $15,000,000, 20 year, 11 1/8% sinking fund debenture. The completion of the issue is expected to be finalized June 6, 1991.

The proceeds of this long-term debt will be used to repay outstanding bank loans and to finance capital projects.

Schedules

(unaudited)

Pursuant to Section 84 of the Financial Administration Act, the Corporation has written off the following assets, debts or obligations during the year that exceeded $500.

NORTHWEST TERRITORIES POWER CORPORATION

Schedule of Write-offs
for the year ended March 31, 1991
(unaudited)

Cash

Plant	Month/Year	Amount
Fort McPherson	Feb/90	$ 648.03
		$648.03

NORTHWEST TERRITORIES POWER CORPORATION

Schedule of Write-offs
for the year ended March 31, 1991
(unaudited)

Accounts Receivable

Plant	Name	Amount
Ft. Simpson	Haslam, Gordon	$ 1,830.97
Inuvik	Azure, Joyce	548.65
	Foisy, John	806.63
	Morrissette, Gerald	733.81
	Percy's Trucking	1,166.78
	Pluim Contractors	2,436.48
	P.M. Supply	1,229.77
Iqaluit	Holben, J.D.	667.24
Norman Wells	NWT Holdings	1,141.37
Hay River	Mihaila, Ion	5,188.76
		$15,750.46

NORTHWEST TERRITORIES POWER CORPORATION

Schedule of Write-Offs
for the year ended March 31, 1991
(unaudited)

Property and Equipment

Plant	Description	Original Cost	Accumulated Depreciation	Net Book Value
Iqaluit	Powerhouse fire Protection system	$ 70,762.61	$ 27,050.03	$ 43,712.58
	Heating furnace for warehouse	2,733.84	1,484.18	1,249.66
Pine Point	4 Br. Detached Unit #340	6,600.00	0.00	6,600.00
	4 Br. Detached Unit #341	6,600.00	0.00	6,600.00
Edmonton	Miscellaneous office equipment	168,410.77	139,080.56	29,330.21
		$255,107.22	**$167,614.77**	**$ 87,492.45**

ᓄᓇᕗᑦ ᐅᓪᓗᒥᒃ ᐅᓱᒪᓕᕐᓂᖅ
ᐊᖏᕐᒧᑎᓪᓗᒍᑦ ᐅᓂᒃᑳᐅᑎᑕᐅᓯᒪᔪᑦ 1990/91ᒥᑦ

ᐱᖓᓱᐃᓐᓇᖅᑐᓂᖏᓐᓄᑦ ᐅᓱᒪᓕᕐᓂᐊᓂᒃ ᓯᑕᓂᑎᓪᓗᒥᒃ; ᐱᓕᕆᔨᐊᖏᑦᑐᓂᖏᑦ ᑲᔪᓯᓪᓗᓂᒃ ᑐᑭᓯᐅᑎᓪᓗᒍ

NORTHWEST TERRITORIES
POWER
CORPORATION

ᐅᖃᓕᒫᒥᑦ ᑲᑎᒪᔨᖏᑦᑐᑎᒍᓱᑉᐳᖅ:
Stoneman Communications-ᑯᓐᓂᖅ, ᐊᑦᓚᓐᑕᓐᓗ

ᐊᑦᑐᖏᔪᒍᑦ:
ᐊᑦᑐᖏᔪᒍᓱᑉᐳᖅᓯᓚᖅᑕᑦ, ᓄᓇᕗᒻᒥᒃᓗ ᐅᓪᓗᒥᖏᓪᓕᐊᓂᖅᓯᒪᔪᑦ

ᓴᓇᐅᑉᐳᖅ:
Inkit Ltd., ᑲᓚᓇᐃᑦ

ᐸᐃᒪᓕᕆᓂᐸᐃᒪᓕᕆᔨᖏᑦᑐᑎᒍᑉᑲᓐᓂᖅ ᓂᕆᔨᒃᓴᒪᓕᕆᓂᖅ ᑎᑎᕋᕐᕕᑎᒍᑉᓴᒪᓕᕆᔨᖏᑦ

ᑲᑎᒪᓕᕐᓂᖅᓯᒪᔪᑦ ᓄᑦ ᐅᓂᒃᑳᐅᔭᕆᔨᒪᔪᖅ 1990/91

ᒪᓕᒐᐅᔪᓐ ᓇᓗ ᑯᓄᐊᕐᕕᒃ
ᓄᓇᕗᑦᐊᕐᓗᑦ ᐅᖃᒪᔭᓕᒫᓂᕐᓂᖅᓯᒪᓂ ᒥᓂᔨᑦᓯᓚᑦ
ᖃᐅᔨᐊᓕᓵᕆᔭᖓ ᑕᒪᓐᓇ ᐅᓂᒃᑳᐅᔭᕆᔨᒪᔪᖅ ᓄᓇᕗᑦᐊᕐᓗᑦ
ᐅᖃᒪᔭᓕᒫᓂᕐᓂᖅᓯᐅᓐᓄᑦ

ᑎᑎᕋᖅᑕᐅᕆᔨᒪᔪᖅ ᐃᓕᓴᐅᓄᑦ ᑐᓂᔭᐅᔪᓐᓇᖅᓯᒪᔪᑦ,
ᐱᒃᔦᑎᑎᓕᒻᒥᑦ ᑯᐊᐸᕋᐃᓕᐅᑦ ᑭᓇᐅᔭᖃᑎᒌᖅᑐᑦ, ᐊᒻᒪᓗ
ᓇᐃᒍᓕᒫᖅᑎᑕᐅᕆᔨᒪᔪᓐᓇᖅᑐᑦ ᐅᖃᐅᓕᕆᔨᐅᕆᔨᒪᔭᕐᓂᖅ
ᑯᐊᐸᕋᐃᓕᓚᒥᑦ ᐱᓕᕆᐊᓕᕆᔨᐅᕆᔨᒪᓕᐅᖅᑐᑦ
ᐱᑎᐊᖅᑎᑕᐅᓕᐅᖅᑐᑦᓗ 1990/91-ᒥᑦ.

ᖃᐅᔨᓴᒪᓕᕐᓂᖅ ᐃᑉ ᐱᑦ ᐱᓕᕆᓂᑉ ᐱᖃᓐᓂᖅ
ᐃᖅᑲᓇᐃᖅᑐᑦᓗ ᐃᑲᔪᑎᑎᖅᐅᑦᑎᐊᓕᐅᕐᓂᑦ ᑭᓇᐅᔭᕆᓂᓂᐅᑦ
ᐊᖅᖁᔨᓕᐅᖅᑕᖃᖅᓯᒪᓂᖅ.

ᑲᑎᒪᓕᕐᓂᖅᓯᒪᔪᖅᓂᖃᖅᓯᕆᔨᒪᔪᖅ,

ᑲ. H. ᖁᐅᖅᓱᓐ
ᐃᓕᓴᐅᑕᖅ
ᐃᐅ, 1991

ᐃᓗᐊᓂᑦᑐᑦ

ᓄᐊᕐᕋᐃᓕᐅᑦ ᖃᓄᐃᔪᓂᖅᑕᑦ 3

ᐃᒪᓕᐅᑕᐅᑦ ᐅᖃᐅᓯᒪᔭᖅᑕᑦ 4

ᐊᖏᓕᖅᖢᑦ ᐅᖃᐅᓯᒪᔭᖅᑕᑦ 5

ᐊᖅᖢᒧᓐᓄᐅᑉᑐᑦ ᐱᓕᕆᐊᒃᓴᖅᑕᑦ ᖃᐅᔨᓴᖅᑕᐅᓂᖅ

ᓄᐊᕐᕋᐃᓴᕆᓕᕆᓂᖅ 6

ᓄᐊᕐᕋᐃᓴᖏᓐᓄᑦ ᐱᓯᒪᓕᐊᓂᖅ 7

ᓴᓇᔨᐅᓯᒪᓂᐊᖅᑐᑎᓂᒃ ᐊᖅᑭᐸᓯᐃᓂᖅ 8

ᑭᓇᐅᔭᕆᓕᕆᓂᖅ 9

ᐃᓗᐊᓂᖏᓐᓄᓯᒪᔪᓄᑦ ᑭᓇᐅᔭᖅᓄᑎᑎᕐᓂᐅᔪᓂᑦ ᖃᐅᔨᓴᖅᑕᐅᓂᖅᑕᑦ 9

ᒪᓕᒐᓕᕆᔨᓄᑦ/ᓄᐊᕐᕋᐃᓴᖅᑕᑦ ᑎᑎᕋᐅᓕᖏᓐᓄᑦ 10

ᐊᐅᓚᑦᔪᓂᑦ 11

ᐃᓕᓴᕐᓗᓇᔨᓴᖅᑎᓕᕆᓂᖅ 11

ᓂᐅᐱᓕᖅᑐᓕᕆᓂᖅ 12

ᐊᑦᑕᓇᖅᑐᖃᖅᑕᐃᓕᒪᓂᖅ ᐊᒻᒪᓗ ᐅᐊᑦᓯᓂᖅ 15

ᓄᓇᕗᒻᒥᐊᓕᐅᑕᑦᑕᐅᓯᒪᔪᑦ ᓄᓇᓗᐃᓕᐅᑕᑦᑕᐅᓯᒪᔪᑦ ᓄᓇᐃᑦ ᓄᓕᒫᓂᒃᑯᑦ ᑲᒪᒋᔭᐅᔪᑦ 16

ᑲᑎᒪᔨᑦ 17

ᑲᒪᒋᔭᑦ ᐅᖃᐅᓯᔪᓂᐊᔨᓪᓗ 17

ᓴᓇᓕᐅᖅᑎᑐᑦ
ᓄᓇᕗᑦ, ᑐᓂᐊᖅᐃᓇ.
ᓄᓇᕗᒻᒥᐅᕙᓪᓕᐊᓂᖅᓯᐅᑎᓪᓗᒍ ᓄᓇᕗᒻᒥᐅᕙᓪᓕᐊᓂᖅᓯᐅᑎᓪᓗᒍ

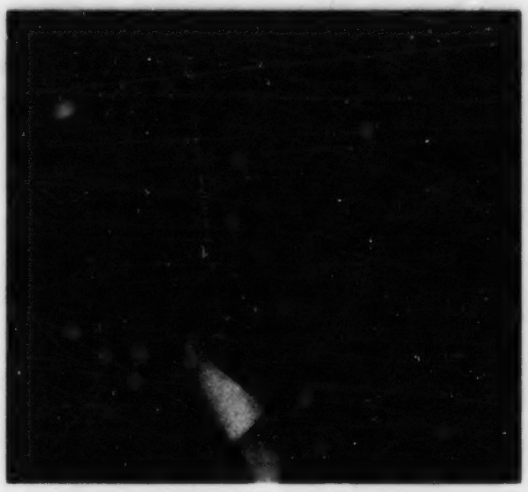
ᑯᐊᕐᕋᐃᓴᐅᑦ ᖃᓄᓐᓇᑦᑐᓂᖃᖅᑎᑦ

ᓄᓇᒥᑦ 3-ᒥᓕᒃᑲᓪᓚᕆᐊᖃᖅ square km-ᒥᑦ ᐊᑐᖅᓯᖃᖅᑎᑦᑎᓪᓗᒥᑦ ᐱᓕᕆᔨᒃᑲᓪᓚᕆᐊᖃᖅᑎᑦᑎᓪᓗᒥᑦ, ᓄᓇᕗᑦᓯᐊᕐᒥᑦ ᐅᓴᒪᔪᓂᓕᕆᓂᖅᓴᐃᓂᖅ ᐅᓴᒪᔪᓂᓕᕆᓂᖅᓴᐃᓂᖅᐱᑦᑎᓪᓗᒥᑦ ᓄᓇᕗᑦᓯᐊᕐᒥᐅᓕᒃᑲᓪᓚᖅ.

ᑯᐊᕐᕋᐃᓴᐅᑎᑦ ᐱᓕᕐᓂᐅᖅᖃᓕᕐᓂᖅ ᒪᐃ 5, 1988-ᒥᑦ ᓄᓇᕗᑦᓯᐊᕐᒥᑦ, ᑲᑎᒪᔨᐊᖏᓪᓗᒥᑦ ᐊᐃᖅᑲᓇᐅᔭᓪᓗᒥᑦ ᒪᓕᒃᑲᓪᓚᕆᐊᖃᖅᑎᑦᑎᓪᓗᒥᑦ ᓄᓇᕗᑦᓯᐊᕐᒥᑦ ᐅᓴᒪᔪᓂᓕᕆᓂᖅᓴᐃᓂᖅᐱᑦᑎᓪᓗᒥᑦ ᒪᓕᒃᑲᓪᓚᖅ.

ᑕᕐᓇ ᒪᓕᒃᑲᓪᓚᖅ ᐃᒪᐃᓕᖏᓪᓗᒍᓕᕐᓂᖅ;
ᑯᐊᕐᕋᐃᓴᐅᑎᑦ ᐅᓴᒪᔪᓂᓕᕆᓂᐅᓚᐊᖃᖅᑎᑦᓴᑦ,
ᐅᓴᒪᔪᓂᓕᕆᓂᖅᓴᐃᓂᖅᐱᑎᓪᓗᒋᐊᖃᖅᑎᑦᓴᑦ ᐊᒻᒪᓗ
ᐅᓴᒪᔪᓂᓕᕆᓂᕐᒥᔪᓂᖅᓴᐃᓂᖅᐱᑦᑎᓪᓗᒥᑦ ᑕᐃᑲᓂᐊᐅ
ᐅᓴᒪᔪᓂᓕᕆᓂᖅᓴᐃᓂᖅ ᓄᓇᕗᑦᓯᐊᕐᒥᐅᓕᒃᑲᓪᓚᖅ ᐊᒻᒪᓗ
ᑯᐊᕐᕋᐃᓴᐅᑎᑦ ᐊᐅᓚᑦᓴᓕᕐᓂᖅ ᑕᐃᑲᓂᐊᐅᓕᒃᑲᓪᓚᖅ
ᐅᓴᒪᔪᓂᓕᕆᓂᐅᓚᐊᖃᖅᑎᑦᓴᑦ ᐊᒻᒪᓗ ᐊᐅᓚᑦᓴᓕᕐᓂᖅ
ᐅᓴᒪᔪᓂᓕᕆᓂᖅᓴᐃᓂᖅᐱᑦᑎᓪᓗᒥᑦ ᓄᓇᕗᑦᓯᐊᕐᒥᑦ
ᐅᓴᒪᔪᓂᓕᕆᓂᖅᓴᐃᓂᖅᐱᑦᑎᓪᓗᒥᑦ ᐊᐅᓚᑦᓴᓕᕐᓂᖅ.
ᐊᒻᒪᓗᓴᖏᓐᓂᑦ, ᐃᓕᓴᕐᓂᑦ ᐅᑭᐅᑐᖅᑎᖅᑎᑦ, ᓄᓇᕗᑦᓯᐊᕐᒥᑦ
ᐅᓴᒪᔪᓂᓕᕆᓂᖅᓴᐃᓂᖅᐱᑦᑎᓪᓗᒥᑦ ᐊᐅᓚᑦᓴᓕᕐᓂᖅ ᐊᒻᒪᓗ
ᐅᓴᒪᔪᓂᓕᕆᓂᖅᓴᐃᓂᖅᐱᑦᑎᓪᓗᒥᑦ ᐊᐅᓚᑦᓴᓕᕐᓂᖅ
ᐊᑐᖅᓯᖃᖅᑎᑦᑎᓪᓗᒥᑦ ᐊᐅᓚᑦᓴᓕᕐᓂᖅ ᐊᒻᒪᓗ
ᑯᐊᕐᕋᐃᓴᐅᓚᐊᖃᖅᑎᑦᓴᑦ ᐊᐅᓚᑦᓴᓕᕐᓂᖅ.

ᑯᐊᕐᕋᐃᓴᐅᑎᑦ, ᐅᓴᒪᔪᓂᓕᕆᓂᖅᓴᐃᓂᖅᐱᑦᑎᓪᓗᒥᑦ ᑕᑯᓇᖅᑐᓂᖅ ᐊᑐᖅᓯᖃᖅᑎᑦᑎᓪᓗᒥᑦ, ᐊᐸᑐᓚᐊᖏᓪᓗᒥᖅᓯᐅᓕᖅ, ᐊᖏᐅᓕᖏᓐᓂᖅᓯᐅᑎᓪᓗᒥᑦ ᐊᑐᖅᓯᖃᖅᑎᑦ ᑭᖑᓪᓕᖅᑐᑦᑕᐅᓕᖅᑐᓂᖅ. ᐅᓴᒪᔪᓂᓕᕆᓂᕐᒥᑦ ᓴᖅᓇᐃᑦᑕᐅᓂᐊᕐᑕᑦ ᓱᑐᓂᓴᓐᓂ ᐃᓱᒪᓕᒃᑲᓪᓚᕆᐊᖃᖅᑎᑦᑎᓪᓗᒥᑦ, ᑕᒪᓐᓇ ᐅᑕᕐᓂᑦᓯᒪᔪᖅᑐᓂᖅᓴᐃᓂᖅᐱᑦᑎᓪᓗᒥᑦ ᐱᓕᕆᔨᒃᑲᓪᓚᕆᐊᖃᖅᑎᑦᑎᓪᓗᒥᑦ ᐅᓴᒪᔪᓂᓕᕆᓂᖅᓴᐃᓂᖅᐱᑦᑎᓪᓗᒥᑦ ᓄᓇᕗᑦᓯᐊᕐᒥᑦ ᐅᓴᒪᔪᓂᓕᕆᓂᖅᓴᐃᓂᖅᐱᑦᑎᓪᓗᒥᑦ ᐊᒻᒪᓗ ᐊᐅᓚᑦᓴᓕᕐᓂᖅ ᐊᑐᖅᓯᖃᖅᑎᑦᑎᓪᓗᒥᑦ ᐊᐅᓚᑦᓴᓕᕐᓂᖅ



ᐃᑲᓯᐅᑕᐅᑦ ᐅᖃᐅᓯᒪᓂᖅᓯᒪᔪᖅ

ᑕᒪᓐᓇ ᐅᓂᒃᑲᓕᐅᖃᑎᒌᓯᒪᓂᖅᓯᒪᔪᖅ ᐊᖃᓕᒫᑦᓯᓯᒪᓂᖅᓯᒪᔪᖅ ᑲᑎᒪᔨᑦᑕᐅᓯᒪᓕᕆᓂᖃᖅᑎᓗᒃ ᑕᐃᒪᓐᓇᖅᓯᒪᓂ ᓄᓇᕗᑦ ᒪᓕᒪᓐᓂᖅᓯᒪᔪᖅ ᑲᒪᒋᔭᐅᓕᕆᔨᓕᕆᔨᖃᖅᑎᓗᒃ ᓴᖅᑭᑦ 1988-ᖃᓄᖅᓗᒃ, ᐅᐱᒍᓐᓇᑐᒃᓴᓇᑦ ᐱᓕᕆᐊᓂᓇᓕᕆᔨᖃᖅᑕᕐᓂᑦ ᐱᓕᕆᐊᓂᒃᐅᓇᓕᕆᔨᓕᒪᑦ ᐃᑲᓯᐅᑕᐅᑦᑎᓗᒃ ᐳᓇᐅᔭᓕᕆᓂᐅᑦ ᐊᖃᓕᒫᑦᓯᓯᒪᓂᖅᓯᒪᔪᖅ.

ᑕᒪᓐᓇ ᐃᑲᓯᐅᑕᐅᑦᓯᓯᒪᓂᖅᓯᒪᔪᖅ ᐊᖃᓕᒫᑦᓯᓯᒪᓂᖅᓯᒪᔪᖅ ᐊᓕᕆᑎᒃᓴᓇᑦ ᑕᒪᓐᓇ ᐊᖃᓕᒫᑦᓯᓯᒪᓂᖅᓯᒪᔪᖅ ᐊᓕᕆᐊᓕᕆᔨᖃᖅᑎᓗᒃ ᓄᓇᕗᑦ ᐊᖃᓕᒫᑦᓯᓯᒪᓂᖅᓯᒪᔪᖅ. 3-ᒥᓕᓴᐃ square km-ᒥᒃ ᓄᓇᖅᑐᑎᒃᓴᓇᑦ ᐊᓕᕆᓪ ᐃᐅᔨᖅᑐᒃ ᓂᓪᓕᓯᔭᑐᑦ ᐊᖃᓕᒫᑦᓯᓯᒪᓂᖅᓯᒪᔪᖅ ᐃᓱᒪᓕᕆᓂᖅᓯᒪᔪᖅ ᐊᓕᕆᐊᓕᕆᔨᖃᖅᑎᓗᒃ ᓄᓇᕗᑦ ᐊᖃᓕᒫᑦᓯᓯᒪᓂᖅᓯᒪᔪᖅ ᐊᓕᕆᐊᓕᕆᔨᖃᖅᑎᓗᒃ

ᐊᖏᓪᓗᖅᑐᑦ ᐅᖃᐅᓯᒪᔭᖏᓪᓕ

ᐊᓕᐊᓇᐃᔨᓯᑎᐊᖅᑐᑎᒍᑦ ᑕᒪᓐᓇ ᐱᖓᓱᓂᐃᖅᓯᓯᑎᐅᓯᒪᔪᖅ ᐊᖏᖅᓯᒪᓕᕆᔨᖅᑐᑦ ᐅᓂᒃᑳᓕᐅᖅᑎᑎᐅᓯᒪᔪᖅ ᓄᓇᕗᑦ ᐅᕝᒪᖅᓯᒪᓂᕆᔨᒃᓴᓂᓪᓗᒍ ᓴᖅᑭᑎᑎᐅᔪᓐᓇᖅᓯᒪᔪᑦ.

ᓄᓇᕗᑦ ᐅᕝᒪᖅᓯᒪᓂᕆᔨᒃᓴᓂᓪᓗᒍ ᐃᓕᓴᕆᓂᕆᓐᓂᐅᑦ ᑭᖑᒧᓕᕆᔨᖅᑎᑎᓕᒫᑦ ᑭᖑᒧᓕᕆᔨᖅᑎᑎᓕᒫᑦ ᓄᓇᕗᑦ ᑭᓯᐊᓂᖅ ᐊᓕᐊᓇᐃᔨᓯᑎᐊᖅᑐᑦ ᐊᑐᕐᓗᒍ ᐃᓕᓴᕆᓂᕆᓐᓂᐅᑦ ᐊᑐᕐᓗᒍ ᐃᓕᓴᕆᓂᕆᓐᓂᐅᑦ ᐊᑐᕐᓗᒍ ᐃᓕᓴᕆᓂᕆᓐᓂᐅᑦ.

ᑭᖑᒧᓕᕆᔨᖅ ᑎᑭᐅᑎᓪᓗᒋᑦ ᐅᕝᒪᓐᓄᓪᓕ ᐊᑐᕐᓗᒍ ᐊᓕᐊᓇᐃᔨᓯᑎᐊᖅᑐᑦᓯᓚᖅᑐᑦ ᐊᓕᐊᓇᐃᔨᓯᑎᐊᖅᑐᑦᓯᓕᒫᑦ. ᐊᑭᐅᔪᑎᒃᓯᒪᔪᖅ ᓴᓇᔨᓕᓪᓚᕆᔨᖅᑐᑦ ᐊᑐᕐᓗᒍ ᐃᓕᓴᕆᓂᕆᓐᓂᐅᑦ ᐊᑐᕐᓗᒍ ᑕᒪᓐᓇ ᐊᑐᕐᓗᒍ ᐃᓕᓴᕆᓂᕆᓐᓂᐅᑦ

ᑯᑉᓯᕐᓇᓂᓕᒫᖅ

ᐊᑭᓕᖅ ᐊᒻᒪᓗ ᒪᓕᓐᑕᐅᓯᒪᔨᓕᐊᖅᑐᑦ

ᒪᓐᓇᓕ ᑯᑉᓯᕐᓇᓂᒃ ᒪᓕᓐᑕᐅᓯᒪᔨᓕᐊᖅᑐᑦ ᓄᓇᕗᑦ ᑲᒪᒋᓚᐅᖅ ᐅᖃᓕᒫᓂᒃ ᑲᑎᒪᔨᓄᑦᑎᐊᓂᒃ (PUB) ᐊᑦᑎᓐᑕᐅᓯᒪᓂᖅᓯᒪᓕᒃ ᑕᐃᔨᓄᐊᖅᓯᒪᓂ ᐊᒻᒪᓗ. ᒪᓐᓇᖏᑦᑕᐅᑎᒍᑦ, ᑕᐃᔨᓄᐊ ᓄᓇᕗᑦ ᐊᑦᑎᓐᑕᐅᓯᒪᓂᖅᓯᒪᓕᒃ ᑲᑎᒪᔨᓄᑦᑎᐊᓂᒃ ᐊᒻᒪᓗ ᓄᓇᕗᑦ ᑲᑎᒪᔨᓄᑦᑎᐊᓂᒃ ᐊᑦᑎᓐᑕᐅᓯᒪᓂᖅᓯᒪᓕᒃ ᐱᓕᕆᔨᒃᑐᑦ ᑲᑎᒪᔨᓄᑦᑎᐊᓂᒃ ᐊᑦᑎᓐᑕᐅᓯᒪᓂᖅᓯᒪᓕ

ᓄᓇᕗᑦ ᑲᑎᒪᔨᖅ ᐊᑐᖅᑕᐅᓂᖓᓄᑦ ᑕᒪᓐᓇ ᐊᑐᖅᑕᐅᔪᓐᓇᖅᓯᒪᔪᖓᓄᑦ ᐊᐅᓚᕆᓕ

ᐅᖃᖅᑐᑎᒃ ᐊᑐᖅᑕᐅᓂᖓᓄᑦ ᓄᓇᕗᒻᒥᓂ, ᓴᓇᒃᓴᓂ ᑎᑭᓴᐃᓇᖅᑐᓂ ᑕᒪᓐᓇ ᐱᓕᕆᓚᐅᑎᓪᓗᐊᓂᒃᓴᓂ.

ᐅᕝᕙᓘᓴᐃᓇᖅᑐᐃᓂᖅ ᐊᐃᑉᐸᓂ ᑭᓇᐅᔭᓕᓂᒃ ᐅᕝᕙᓘᓴᐃᓇᖅᑐᐃᓂᖅ ᑲᑎᒪᔨᖅ ᐊᐃᑉᐸᓂ ᐅᕝᕙᓘᓴᐃᓇᖅᑐᐃᓂᖅ ᐊᑐᖅᑕᐅᓂᖓᓄᑦ ᐅᕝᕙᓘᓴᐃᓇᖅᑐᐃᓂ

ᑲᑎᕕᖃᑎᒌᖏᑦᑐᓂ ᐃᓕᓴᕐᑕᕐᓂᓕᕆᔨᒪᓂ ᐊᓯᐃᓕᓴᕐᓂ ᓄᓇᕗᑦᑎᒥᓂ ᑭᒦᓛᓕᖅᑐᓂ ᐃᓕᓴᕐᑕᕐᓂᓕᕆᔨᒪᓂ. ᐊᖏᓪᓗᑎᑦᑎᓂᒃ ᐅᖃᓗᓈᓯᐅᓕᖅᑐᓂ ᓄᓇᕗᑦᑎᒥᓂ ᓇᒻᒥᐅᑦ ᐃᖅᑲᐃᐃᓕᖅᑐᓂ ᑲᑎᕕᖃᑎᒌᖏᑦᑐᓂ ᐃᓕᓴᕐᑕᕐᓂᓕᕆᔨᒪᓂ.

ᑭᓯᓚᑦᑕᓂᒃ ᑐᓴᐅᒪᖃᑎᒌᓂᖅ

ᑭᓯᓚᑦᑕᓂᒃ ᑐᓴᐅᒪᖃᑎᒌᓂᓪᓗᑎᑦ ᖃᒪᓕᕆᔨᐅᓪᓚᖃᑎᒌᓕᖕᒥᑦᑐᓂᒃ ᐃᓄᓐᓄᑦ ᐊᖏᓪᓗᑎᑦ ᓄᓇᕗᓐᓄᑦ ᐃᓚᒋᔭᐅᓪᓚᕆᔨᒪᓂᒃ ᐊᖏᓪᓗᑎᑦ ᖃᒪᓕᕆᔨᐅᓪᓚᖃᑎᒌᓕᖕᒥᑦᑐᓂᒃ ᓴᓇᔨᓄᑦ ᑐᓴᐅᒪᖃᑎᒌᓂᖅ ᐊᑐᖅᑕᐅᓯᒪᓂᖅᓯᒪᔪᖅ

ᐱᓇᐅᔭᓕᓂᓐᖏᑦ

ᒪᓕᒐᖅᑎᓪᓗᒍ ᐊᐅᓚᑕᐅᓯᒪᓂᖅᓯᒪᔪᖅ ᓂᓚᐅᑎᔾᔪᐅᒪᒥᑦ ᐱᓇᐅᔭᓕᓂᓐᖏᑦ ᐱᓕᕆᓂᖅ ᐊᑎᓕᑦ ᐃᓕᓴᕐᖏᓐᓂ ᐊᑐᓐᖓᔪᓐᓇᖅ ᐅᓪᓗᑎᒃ ᐅᓂᒃᑳᖅᑐᓂᖅᓯᒪᓂᖅ ᐊᑐᓐᖓᔪᓐᓇᖅᓯᒪᔪᖅ ᑐᓴᕐᕕᒃᓴᓂᖅᓯᒪᔪᖅ ᐃᓕᓴᕐᖏᓐᓂ ᐃᓐᓇᐃᓐ ᐅᓪᓗᑎᒃᓴᓂᖅᓯᒪᓂᖅ ᓄᑖᒥᓂᖅᓯᒪᓂᖅ (PUB) ᐊᑐᓐᖓᔪᓐᓇᖅᑕᐅᓯᒪᓂᖅᓯᒪᔪᖅ ᐊᐅᓚᑕᐅᓯᒪᓂᖅᓯᒪᔪᖅ. ᐃᓐᓇᐃᓐᓂᒃ ᐱᓇᐅᔭᓕᓂᓐᖏᑦ ᐅᓂᒃᑲᓂᐅᓐᓂᒃᑲᓂᐅᓐᓂᒃᑐᓂᒃ ᓇᓗᓇᐃᖅᑐᓂᖅᓴᓂᒃ ᐱᓇᐅᔭᓕᓂᓐᖏᑦ ᐱᓇᐅᔭᓕᓂᓐᖏᑦ ᐱᓇᐅᔭᓕᓂᓐᖏᑦ

ᑭᓇᐅᔭᖏᑦᑐᖓᓂᒃ ᖃᐅᔨᓴᖅᑎᑕᐅᓕᐅᕙᓪᓕᕐᓂᖅ: Δ˙ᓗᒥᖅ ᓂᐅᐱᕐᔪᐊᓘᓚᐅᑦ ᑭᓇᐅᔭᓄᑦ ᐊᑐᖅᑐᐊᖅᑎᑕᐅᔪᓂᖅ, ᑭᓇᐅᔭᖏᑦᑕᓚᖅᑐᑦᓯ ᐃᑲᖅᑎᑦᓂᓪᓗᒥ ᖃᐅᔨᓴᖅᑎᑕᐅᔪᓂᖅ, ᑭᓇᐅᔭᖏᑦᑕᓚᖅᑐᑦᓯ ᐊᐳᖅᑭᐅᔪᓂᖅᑎᑕᐅᕙᓪᓕᓐᓂᖅ, ᐊᑭᓕᖅᑎᑕᐅᔪᓂᖅᑎᑐᖅᑐᖓ, ᐊᑭᓐᓂ ᖃᓄᐊᖑᓚᐅᖏᓪᓗᑎᒃ ᐊᑭᓐᓂ ᐃᓕᓴᕐᓂᐊᕐᓗᒍ. ᓄᓇᕗᒻᒥᐅ ᐱᓕᕆᓂᐊᕐᓗᒍ ᐊᑐᖅ ᐊᒻᒪᓗᓂᒃ ᑭᓇᐅᔭᓄᑦ ᖃᐅᔨᓴᖅᑎᑕᐅᔪᓂᖅᑎᑐᖅᑐᖓ ᐊᐳᖅᑭᐅᔪᓂᖅᑎᑕᐅᕙᓪᓕᖅᑐᑦ, ᖃᐅᔨᓴᖅᑎᑕᐅᔪᓂᖅᑎᑕᐅᕙᓪᓕᖅᑐᑦ, ᖃᐅᔨᓴᖅᑎᑕᐅᔪᓂᖅᑎᑕᐅᓕᖅᑐᓂᒃᑯᑦᓯᒪᓕᖅᑐᑦ.

ᑭᓇᐅᔭᖏᑦᑐᖓᓂᒃᑯᑦᓯ ᖃᐅᔨᓴᖅᑎᑕᐅᓂᐊᕐᓗᒍ ᐃᓕᓴᕐᓂᐊᕐᓗᒍ:

ᐅᖃᖅᑐᖅ ᖃᐅᔨᓴᖅᑎᑕᐅᓕᖅᑐᑦ ᐊᑐᖅᑐᐊᖅᑎᑕᐅᔪᓂᖅᑎᑐᖅᑐᖓ ᐊᑐᖅᑐᐊᖅᑎᑕᐅᔪᓂᖅᑎᑕᐅᓕᖅᑐᓂᒃᑯᑦᓯᒪᓕᖅᑐᑦ

ᑲᑎᒪᓂᕆᔨᖏᑦ ᑕᐃᓂᐅᑕᐅᖅ ᐱᓕᕆᓂ ᐃᓗᐊᓂ ᐊᖏᖃᓄᐃᑦᑕᐅᖅᑎᑦᓯᔪᖅ.

ᐃᓕᓴᕆᓂᑦ ᐱᔨᖁᖃᓂᖅᐱᐅᖃᑦᑕᓕᐅᖅᑐᑦ ᐃᓕᓴᕆᓂᑦ ᐱᔭᕇᖃᑎᒌᖏᑦ ᑕᐃᒪᓐᓇᖅᓂ ᐱᓕᕆᓂ ᐃᓗᐊᓂ ᓄᑖᒥᓂᖅ ᐊᖏᖃᓄᐃᑦᑕᐅᖅᑎᑦᓯᔪᖅ ᑕᐃᒪᓐᓇᖅᓂ, ᐱᓪᓚᐊᖅᑐᒥᑦ ᒪᓕᒪᓂᓗᓂᖅᓯᒪᔪᑦ ᑲᑎᒪᔨᐅᓕᒪᓐᓇᖅᑐᖅᑐᑦᑐᖅᑐᑦ ᐊᑐᖅᑐᑦᑐᖅᑐᑦ ᐅᐱᕐᓇᕐᓂᖅᑐᑦ ᐊᑐᖅᑐᑦᑐᖅᑐᑦ ᐅᐱᕐᓇᕐᓂᖅᑐᑦ ᐊᑐᖅᑐᑦᑐᖅᑐᑦ ᐊᑐᖅᑐᑦᑐᖅᑐᑦ ᐊᑐᖅᑐᑦᑐ

ᑕᑯᓂᓪ
ᐱᓕᕆᓂᖅ ᐃᓄᖕᓇᓂᑦ
ᖃᐅᔨᓴᖅᑎᓕᕆᓂᖅ
ᐃᑉᐹᓐ ᑎᑎᕋᓂᖅ
ᐊᑐᐊᓂᖅ
ᐊᑦᓯᐊᓂᖅ.

ᐱᔨᓴᙱᓐᓂᖅᓯᒪᔪᖅ. ᑲᓇᑕᓗᒃ 1991-ᒥᑦ ᐊᖏᕐᕋᑎᒍᓯᒪᔪᑎᑦ ᑎᓴᕐᕕᐊᓴᐅᓚᐅᖅᓯᒪᓂᖅ ᐊᖏᕐᕋᐱᑕᐅᓚᐅᖅᓯᒪᓂᖅ ᑕᐃᔨᓐᓇ ᐃᓕᓴᕐᕕᖏᓂᖅ ᐊᖏᕐᕋᑎᒍᑦᑐᖅᓯᒪᓂᖅ. ᑕᐃᒪᐃᓕᓴᕐᓂᖅᓴᓂᒃ ᐃᓕᓴᕐᕕᖏᓂᖅ ᖃᓄᖅᓯᒪᔪᓕᕆᓂᖅᓴᓂᒃ ᐊᖏᕐᕋᑎᒍᑦᑐᖅᓯᒪᓂᖅ ᐊᖏᕐᕋᑎᒍᑦᑐᖅᓯᒪᓂᖅ ᐊᑐᖅᓚᓪ ᑕᐃᔨᓐᓇ ᐊᑎᖏᓐᓂᖅ ᐊᖏᕐᕋᑎᒍᑦᑐᖅᓯᒪᓂᖅ ᐊᖏᕐᕋᐱᑕᐅᓚᐅᖅᓯᒪᓂᖅ ᐊᖏᕐᕋᑎᒍᑦᑐᖅᓯᒪᓂᖅ, ᐃᓕᓴᕐᕕᖏᓂᖅ ᓴᓇᔨᓴᖅᑎᑦᑎᓂᖅ 51-ᓴᒧᓪᓕᐊᓕ ᐊᖏᕐᕋᓚᐅᖅ

ᐊᖏᕐᕋᑎᒍᓯᒪᔪᓂᒃ, ᐱᖓᓱᐊᑎᓴᐅᓚᐅᖅᓯᒪᓂᖅ 228-ᓴᒧᓪᓕᐊᓕ.

ᐱᓕᕆᓂᐊᓕᖕᓂᖅ ᑲᒪᒋᔭᐅᓪᓚᕆᐊᓚᐅᖅᓯᒪᓂᖅ ᐃᓪᓚᕐᓂ ᐱᔨᑎᒋᔭᐃᓪ ᐱᓕᕆᓂᐊᓕᖕᓂᖅ ᐊᐅᓚᓪᓚᕆᐊᓚᐅᖅᓯᒪᓂᖅ. ᐅᓴᐃᖏᓐᓂᒃ ᐃᓪᓚᕐᓂ ᑲᒪᒋᔭᐅᓪᓚᕆᐊᓚᐅᖅᓯᒪᓂᖅ; ᐃᓴᓚᐃᔭᖅᑎᓂᓕᓂᖅ ᐱᓂᓯᓐᓄᓂᒃ ᐱᔨᑎᒋᔭᐃᓪ, ᐊᖏᕐᕋᓕᐅᕐᓂᖅᓴᖅᑐᓂ ᑲᒪᒋᔭᐅᓪᓚᕆᐊᓕᖕᓂᖅ ᐊᖏᕐᕋᑎᒍᑦᑐᖅᓯᒪᓂᖅ ᐊᖏᕐᕋᐱᑕᐅᓚᐅᖅᓯᒪᓂᖅ. ᐊᖏᕐᕋᔭᕆᐊᓕᖕᓂᖅᓱᒃ ᑕᐃᔨᓐᓇ ᐊᖏᕐᕋᑎᒍᑦᑐᖅᓯᒪᓂᖅ ᐃᓕᓴᕐᕕᖏᓂᖅ ᐃᓕᓴᕐᕕᐊᓴᐅᓚᐅᖅᓯᒪᓂᖅ ᐃᓴᓚᐃᔭᖅᑎᓂᓕᓂᖅ ᐃᓕᓴᕐᕕᐊᓴᐅᓚᐅᖅᓯᒪᓂᖅ ᐃᓕᓴᕐᕕᐊᓴᐅᓚᐅᖅᓯᒪᓂᖅ ᑕᐃᔨᓐᓇ ᐃᓴᓚᐃᔭᖅᑎᓂᓕᓂᖅ ᐃᓕᓴᕐᕕᐊᓴᐅᓚᐅᖅᓯᒪᓂᖅ ᐊᖏᕐᕋᑎᒍᑦᑐᖅᓯᒪᓂᖅ ᐊᖏᕐᕋᐱᑕᐅᓚᐅᖅᓯᒪᓂᖅ. ᐊᖏᕐᕋᔭᕆᐊᓕᖕᓂᖅᓱᒃ ᑕᐃᔨᓐᓇ ᐃᓴᓚᐃᔭᖅᑎᓂᓕᓂᖅ ᐊᖏᕐᕋᑎᒍᑦᑐᖅᓯᒪᓂᖅ ᐊᖏᕐᕋᐱᑕᐅᓚᐅᖅᓯᒪᓂᖅ. ᐊᖏᕐᕋᔭᕆᐊᓕᖕᓂᖅᓱᒃ ᑕᐃᔨᓐᓇ ᐃᓴᓚᐃᔭᖅᑎᓂᓕᓂᖅ ᐊᖏᕐᕋᑎᒍᑦᑐᖅᓯᒪᓂᖅ ᐊᖏᕐᕋᐱᑕᐅᓚᐅᖅᓯᒪᓂᖅ ᐃᓴᓚᐃᔭᖅᑎᓂᓕᓂᖅ ᐃᓕᓴᕐᕕᐊᓴᐅᓚᐅᖅᓯᒪᓂᖅ ᐊᖏᕐᕋᑎᒍᑦᑐᖅᓯᒪᓂᖅ ᐊᖏᕐᕋᐱᑕᐅᓚᐅᖅᓯᒪ

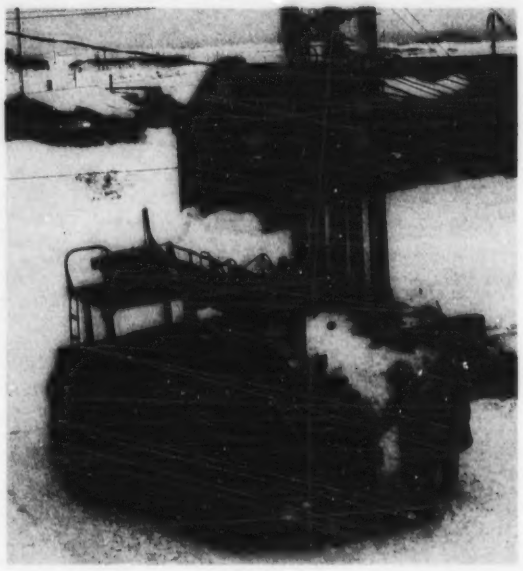
ᐅᒥᐊᖅᓯᐊᕐᓂᖅᓯᒪᔪᓂᖅ ᐱᖃᓐᓇᐅᔭᓕᕆᓂᐊᕐᓗᒍ.
ᓄᓇᕗᒻᒥᒃ ᑎᑭᐅᑎᓪᓗᓐᓃᑦ
ᐊᑲᐅᖏᓪᓗᐅᑦᑐᖅᑲᓇᓕᐅᕙᓪᓕᐊᓂᖅ ᑭᓯᐊᓂᕐ ᑭᓴᖓᓂᕐ
ᐊᑯᓂᐅᓂᖃᖅᓯᒪᔪᑦ ᐅᑕᖃᖅᑎᑎᑕᐅᓪᓗᓐᓃᑦ ᓯᑯᖅᑲᓇᓕᐅᕙᓪᓕᖏᓂᕐ
ᐱᓕᕆᑎᓪᓗᒍ. ᓯᔾᔪᓂᖅᑎᓪᓗᑎᑦ ᑕᒪᓐᓇᐅᒃ
ᓄᓇᕗᒻᒥᓐᓇᐅᔭᕐ ᐅᒥᐊᕐᓇᐊᑯᓂᕐ ᐊᑭᓐᖏᑕᐅᔭᕐ
ᐳᖅᓯᒪᓕᒫᓂᖅᑲᓇᓕᐅᕙᓪᓕᐊᓂᖅ, ᐳᓚᕐ ᐅᓱᖃᖅᑎᑕᐅᔨᓯᐅᑎᓚᕐ
ᐊᑐᐅᓪᓗᒍ.

ᐅᒥᐊᕐᓇᐊᑯᓂ ᑎᑭᓕᖅᑎᓪᓗᒥᑦ ᓂᐅᐱᖅᑐᓕᕆᓂᐊᕐᓗᒍ
ᐱᓕᕆᓂᐊᖅᓯᒪᓂᖅ ᑲᒪᒋᐅᑎᖃᖅᑕᑦᑎᓂᖅ ᓯᓚᑦᓂᓕᕆᓂᖅ
ᑎᑭᐅᑎᓪᓗᓐᓃᑦ ᐊᑭᓐᖏᑕᐅᔭᕐ ᐅᒥᐊᕐᓇᐊᑯᓂᕐ
ᒪᑭᒪᐃᖅᑕᐅᓂᕐᓂᖅ ᑲᒪᒋᐅ, ᐳᓂᑦ ᐅᓱᖃᖅᑕᐅᔨᓯᐅᑎᓂᓂᖅ
ᐊᑐᐅᓪᓗᒍ.

ᐅᒥᐊᕐᓇᐊᑯᓂ ᑎᑭᓕᖅᑎᓪᓗᒥᑦ ᓂᐅᐱᖅᑐᓕᕆᓂᐊᕐᓗᒍ
ᐱᓕᕆᓂᐊᖅᓯᒪᓂᖅ ᑲᒪᒋᐅᑎᖃᖅᑕᑦᑎᓂᖅ ᓯᓚᑦᓂᓕᕆᓂᖅ
ᑎᑭᐅᑎᓪᓗᓐᓃᑦ ᐊᑭᓐᖏᑕᐅᔭᕐ ᐅᒥᐊᕐᓇᐊᑯᓂᕐ
ᒪᑭᒪᐃᖅᑕᐅᓂᕐᓂᖅ ᑲᒪᒋᐅ, ᐳᓂᑦ ᐅᓱᖃᖅᑕᐅᔨᓯᐅᑎᓚᕐ

0
2
4
6
1986
1987
1988
1989
1990

0
100
200
300
400
500
600
1986
1987
1988
1989
1990



ᐊᑦᑕᓇᖅᑐᖓᔪᓕᒫᓂᖅ ᐊᓪᓚᓗ ᐅᐊᑦᓯᓂᖅ

ᑭᓇᐅᔭᓕᓂᐅᑦ ᐊᖏᖅᓯᒪᔨᖅᑕᕐᓂᒃᓴᓂ ᑕᑯ ᓴᓂᓕ ᐱᓕᕆᑯ ᐱᓕᕆᔨᐅᓴᐅᓯᒪᓕᐅᖅᑐᑦ ᐱᓗᐊᖅᑐᒥᑦ ᐊᓯᐅᓂᖅᑎᑎᓂᖅᓴᓐᓂᒃ ᑐᖏᓐᓇᖅᑐᓕᐅᖅᑐᑦ ᐊᓪᓚᓗ ᑐᑭᓯᐅᓕᓕᐅᖅᑐᑦ ᐊᓪᓚᓗ ᐅᑭᒧᑦᑐᓂᒃ ᑲᔪᖅᐳᓯᓕᓂᐅᑉᓴᓐᓂᒃ "ᐊᑦᑕᓇᖅᑐᖓᔪᓕᒫᓂᖅᓴᓐᓂᒃ ᐃᓕᓴᕐᕕᒃᑐᑦ ᓄᓇᕗᑦ ᐊᑐᖅᑐᖓᔪᓂᒃ ᐊᓪᓚᓗ ᐅᑭᒧᑦᑐᓂᒃ ᐊᑐᖅᑐᖓᔪᓂᒃ ᐊᓪᓚᓗ ᐅᑭᒧᑦᑐ

ᑲᑎᒪᔨᑦ

ᑲ.H. ᖃᐅᓕᖅ, ᐃᓕᓴᐅᑕᖅ
ᑲ. ᐊᓗᑕᖅ, ᐃᓕᓴᐅᑕᐅᑦ ᑐᖏᓕᓐᓂᒃ
ᓄ.ᕿ. ᔫᓚᖅ, ᑲᑎᒪᔨᓄ
ᑲ. ᔫᑭᓂᒫᓚᖅ, ᑲᑎᒪᔨᓄ
ᕿ. ᐄᐊᑎ, ᑲᑎᒪᔨᓄ
ᑲ. ᐄᐊᐸᑦ, ᑲᑎᒪᔨᓄ
ᕿ.ᑎ. ᑭᑦ, ᑲᑎᒪᔨᓄ
ᑲ.ᓇ. ᐅᓐᓂᖅ, ᑲᑎᒪᔨᓄ
ᑲ. ᕿᑯ, ᑲᑎᒪᔨᓄ
ᐅᖃᐅᓕᕆᔨᑦ
ᐱ. ᐊᑎᒪ, ᑭᓇᐅᔭᓕᓂᓐᒥᖅ

ᐅᖃᐅᓕᕆᔨᓄᑦ

ᐱ. ᐊᑎᒪ, ᑭᓇᐅᔭᓕᓂᓐᒥᖅ ᐅᖃᐅᓕᕆᔨᓄᑦ
ᐃ.ᐱ. ᐄᐊᐸᑐᖅᑐᖅ, ᓯᓇᑯᑦᑕ ᐊᑐᓚᐅᑎᓪᓗᒍᑦ ᐅᓪᓗᑕᒪᓐᓂᖅ

ᑲᒪᔨᑦ

ᑲ.H. ᖃᐅᓕᖅ, ᐃᓕᓴᐅᑕᖅ ᐊᓕᒪᓗ ᐊᐅᓚᑦᓯᓄᑦ
ᕿ.ᑎ. ᑭᑦ, ᐊᖏᔪᖅᑲᖅ ᐊᓕᒪᓗ ᐊᐅᓚᑦᓯᓄᑦ
ᓄ.ᕿ ᔫᓚᖅ, ᐊᖏᒪᔪᓂᖅ ᐊᖏᔪᖅᑲᖅ ᑐᖏᓕᓐᓂᒃ
ᑎ. ᖃᒪᖅᑕᖅ, ᐊᖏᔪᖅᑲᖅ ᑐᖏᓕᓐᓂᒃ,
ᓴᓇᐅᐸᓗᒪᓂᐊᖅᑐᓄᑦ ᐊᖅᑭᑲᓇᐃᔨᓄᑦ ᐊᓕᒪᓗ
ᐊᐅᓚᑦᔪᑎᓕᓇᔨᓄᑦ ᐱᓕᓕᖅ ᐱᖓᓂᒃ
ᐱ.ᐃ. ᓚᓐᓂᐊᖅ, ᐊᐅᓚᑦᓯᓄ ᒪᓕᓕᒫᓕᓇᔨᓄᑦᓂᒃ
ᓄᐊᕐᕿᐃᓕᐅᑦ, ᑎᑎᕿᐱᖓᓂᖅᓯ
ᓴ. ᓯᐱᐅᓚᖅ, ᐊᐅᓚᑦᓯᓄ ᓄᐊᕐᕿᐃᓕᐅᑦᓇᔨᓄᑦ
ᐱᓕᓕᖅ ᐱᖓᓂᒃ
ᕿ. ᐊᓗᑕᖅ, ᐊᐅᓚᑦᓯᓄ ᑭᓇᐅᔭᓕᓂᓐᒥᖅ
ᐱᓕᓕᖅ ᐱᖓᓂᒃ
ᒪ. ᓄᓇᕗᒻᒥᐅ, ᐊᐅᓚᑦᓯᓄ ᑭᓇᐅᔭᓕᓂᓐᒥᖅ
ᐱᓕᓕᖅ ᐱᖓᓂᒃ
ᓴ.ᐊ. ᓇᓪᓴᖅ, ᐊᐅᓚᑦᓯᓄ ᑭᓇᐅᔭᓄᑦ ᖃᓄᐅᔨᓴᖅᑎᓂᓄᑦ
ᐱᓕᓕᖅ ᐱᖓᓂᒃ
ᓭ. ᓴᐄᐃᐅᓪ, ᐊᐅᓚᑦᓯᓄ ᓴᓇᐅᐸᓗᒪᓂᐊᖅᑐᓄᑦ
ᐊᖅᑭᑲᓇᐃᔨᓄᑦ ᐱᓕᓕᖅ ᐱᖓᓂᒃ
ᑦ. ᑕᐃᐱᑦ, ᐊᐅᓚᑦᓯᓄ ᐊᐅᓚᑦᔪᑎᓕᓇᔨᓄᑦ
ᐱᓕᓕᖅ ᐱᖓᓂᒃ
ᐱ. ᑲᓴᓐᓂ, ᐊᐅᓚᑦᓯᓄ ᐊᑦᑕᓇᖅᑐᖅᖃᖅᑎᑦᑕᐃᓕᓚᓕᓇᓕᓇᓄᑦ
ᓄᓇᑦ ᐊᓕᒪᓗ ᐅᐊᑦᓯᓄᓇᔨᓄᑦ ᐱᓕᓕᖅ ᐱᖓᓂᒃ
ᒃ. ᔨᐱᑦ, ᐊᐅᓚᑦᓯᓄ ᔪᐄᐸᑐᖅᑎᓂᖅ
ᐱᓯᓂᓕᐊᑎᑕᐅᓂᖅᓯᒪᓂᖅ ᐱᓕᓕᖅᐊᓇᓄᐅᔨᓕᔪᓂ

17